Agrium

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

September 17, 2003

Enf / Compliance
T5 Activity
Other

EPA-10 Air Program Branch
Ms. Laurie Kral
1200 6th Ave. M/S AT-082
Seattle, WA 98101

Re: Public Comment Period for Nu-West Industries Inc. Soda Springs, ID

Dear Laurie,

We have scheduled an additional 30-day public comment period for this company. There are additional materials that have had to be added to the comment package, therefore I have made up another binder and there are two Environmental Impact Statement books, draft and final, that need to be with this binder. This additional 30 days runs through October 13, 2003.

Sincerely,

Joan Lechtenberg

Joan Lechtenberg
Air Quality Division

Enclosure

Cc SF
RF

STATE OF IDAHO

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton, Boise, ID 83706-1255, (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

PUBLIC COMMENT PACKAGE

PROJECT: Proposed permit to construct for Nu-West Industries, Inc., Soda Springs

SUBJECT: Application for a permit to construct for an air pollution-emitting source

CONTENTS

CPR/
NM/

STATE OF IDAHO

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton, Boise, ID 83706-1255, (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

August 14, 2003

MEMORANDUM

TO: Nu-West Industries Inc.public comment package

FROM: Joan Lechtenberg
Air Quality Division

PROJECT: Summary to Comment Package

This public comment package contains the application materials submitted by Nu-West Industries Inc., the Department's technical analysis of the project, and the proposed permit.

There are several key materials in this package that can serve as a general review of the project and major issues. The engineer's technical analysis by Hanna (2-1) provides a history and a good summary background for the project. Part 3 contains the proposed permit itself.

JML/bf

cc: Reading File
PC File

STATE OF IDAHO

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton, Boise, ID 83706-1255, (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

August 14, 2003

To all parties interested in Nu-West Industries, Inc.'s application for a permit to construct an air pollution-emitting source

The Department of Environmental Quality (Department) is scheduling a 30-day public comment period with an opportunity for a hearing on Nu-West Industries, Inc.'s application for a permit to construct an air pollution-emitting source. The attached legal notice includes more detailed information on the project and comment period.

An information package will be available for public review on August 15, 2003. The legal notice lists the locations it can be reviewed. This package consists of Nu-West Industries, Inc.'s permit application and attachments, the Department's technical analysis, and the proposed permit.

If you have any questions about the comment period on this proposed permit, please call me at (208) 373-0234. Thank you for your interest.

Sincerely,

Joan Lechtenberg
Air Quality Division

JML/bf

Enclosure

cc: Reading file
PC file

STATE OF IDAHO

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton, Boise, ID 83706-1255, (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

NOTICE OF PUBLIC COMMENT PERIOD REGARDING AN APPLICATION FOR A PERMIT TO CONSTRUCT AN AIR POLLUTION-EMITTING SOURCE

SUBJECT: Proposed permit to construct an air pollution-emitting source and proposed action: Nu-West Industries, Inc., Soda Springs.

PURPOSE: The Department of Environmental Quality has scheduled an additional 30 day period to receive public comments under Docket No. 10AP-0317 concerning the air quality aspects of the project application and the proposed action.

AUTHORITY: In compliance with Section 58.01.01.209, Rules for the Control of Air Pollution in Idaho, notice is hereby given that Nu-West Industries, Inc., Soda Springs, Idaho has applied to the Department for a permit to construct an air pollution source located at Rasmussen Ridge Mine, UTM Coordinates (Km) 468.8, 4746.6. Notice is also given that an additional period for public comment has been scheduled. These actions are authorized pursuant to Sections 39-105(3)(a), 39-105(3)(j), 39-110, 39-115(1), Idaho Code.

DESCRIPTIVE SUMMARY: The general nature of business of Nu-West Industries, Inc. Rasmussen Ridge Mine is the surface mining of Phosphate ore. A modification of the existing permit is proposed to add a diesel-powered generator and to address fugitive dust emissions from existing and proposed mining operations.

PROPOSED ACTION: The Department has reviewed the application and completed a preliminary analysis of the information submitted by the applicant. The Department has tentatively determined that construction of the proposed permit to construct will not cause or significantly contribute to a violation of any ambient air quality standard and will not injure or unreasonably affect human or animal life or vegetation.

Based on this analysis, the Department proposes to issue a permit to construct to Nu-West Industries, Inc.

AVAILABILITY OF MATERIALS: A package containing the information submitted by the applicant, the Department's analysis, and the proposed action is available for public review at the following locations:

DEQ State Office	DEQ Regional Office	Soda Springs Public Library
1410 N. Hilton	444 Hospital Way, # 300	149 S Main
Boise, ID	Pocatello, ID	Soda Springs, ID

SUBMISSION OF WRITTEN COMMENTS, ASSISTANCE ON TECHNICAL QUESTIONS: Anyone may submit written comment regarding the project and proposed action. To be most effective, comments should address air quality considerations and include support materials where available. Comments, requests, and questions regarding the public comment process should be directed to Joan Lechtenberg, Department of Environmental Quality, 1410 N. Hilton, Boise, ID 83706-1255, jlechten@deq.state.id.us], or (208) 373-0234. Please reference the company name and docket number when sending comments or requesting information.

For technical assistance on questions concerning this project or the permitting process, please contact Mike Simon at (208) 373-0502 or msimon@deq.state.id.us.

All written comments and data concerning this proposal must be directed to and received by the undersigned on or before 5:00 p.m. MDT, October 13, 2003.

DATED this 10th day of September 2003.

Joan Lechtenberg

Joan Lechtenberg
Air Quality Division

JML/bf

STATE OF IDAHO

DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton, Boise, ID 83706-1255, (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

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For technical assistance on questions concerning this project or the permitting process, please contact Mike Simon at (208) 373-0502 or msimon@deq.state.id.us.

All written comments and data concerning this proposal must be directed to and received by the undersigned on or before 5:00 p.m. MDT, September 15, 2003.

DATED this 12th day of August 2003.

Joan Lechtenberg

Joan Lechtenberg
Air Quality Division

JML/bf

Agrium

Agrium Conda Phosphate Operations*
3010 Conda Road
Soda Springs, ID 83276
Tel: 208-547-4381
Fax: 208-547-2550

RECEIVED
SEP 12 2003
Department of Environmental Quality
State Air Program

September 12, 2003

File # MI-03-020

VIA FAX AND US MAIL

Mr. Kenneth Hanna
Idaho Department of Environmental Quality
Air Quality Division
1410 N. Hilton
Boise, Idaho 83706-1255

Re: P-020327, Nu-West Industries, Inc., Rasmussen Ridge Mine
Proposed Revised Permit to Construct
Certification of Supplemental Materials

Dear Mr. Hanna:

I am the Mine Manager for Nu-West Industries, Inc., doing business as Agrium Conda Phosphate Operations ("Agrium"), of the Rasmussen Ridge Mine in Caribou County, Idaho, which is the facility covered by the above proposed revised Permit to Construct ("PTC").

At the request of IDEQ, after submittal of the original Application for this PTC, Agrium and our consultant, MFG, Inc., have provided various responses to IDEQ inquiries and supplemental and updated information and materials. I have been the Agrium official responsible for coordinating the responses made and supplemental materials forwarded to IDEQ in this matter.

I am writing to confirm, if necessary, that all of these requested supplemental materials and information provided by or for Agrium comply with all IDEQ certification requirements. Specifically, in accordance with IDAPA 58.01.01.123, I hereby certify, based on information and belief formed after reasonable inquiry, that the statements and information in the documents submitted to IDEQ by or on behalf of Agrium as supplementation to the original Application in this matter are true, accurate and complete, including without limitation the following materials:

1. The responses of Agrium's consultant MFG, Inc. titled "Responses to Issues Raised by Ken Hanna [of IDEQ] on March 27, 2003," as provided to IDEQ on April 4, 2003;

2. The Agrium "Fugitive Dust Control Plan" provided to IDEQ on July 22, 2003;

3. The BLM Record of Decision dated September 5, 2003, the related Draft and Final Environmental Impact Statements, and the construction schedule summary, all relating to the North Rasmussen Mine extension, and related statements and information all provided to IDEQ by letter from Alan Haslam of Agrium dated September 10, 2003; and

* A Registered Name of Nu-West Industries, Inc.

4. The Rasmussen Ridge Mine Emission Inventory and transmittal letter from MFG, Inc. dated September 12, 2003.

If you have any questions or need anything further to complete the proper certification of any materials or information provided by or on behalf of Agrium and relied on by IDEQ in this matter, please notify me immediately. I can be contacted at (208) 574-2420 ext 26. Thank you for your assistance.

Certified this 12th day of September, 2003:

By: 
Alan D. Haslam
Mine Manager
Nu-West Industries, Inc.
d/b/a Agrium Conda Phosphate Operations

Agrium

Agrium Conda Phosphate Operations*
3010 Conda Road
Soda Springs, ID 83276
Tel: 208-547-4381
Fax: 208-547-2550

September 10, 2003

File # MI_03-019

VIA FEDERAL EXPRESS

Mr. Kenneth Hanna
Idaho Department of Environmental Quality
Air Quality Division
1410 N. Hilton
Boise, Idaho 83706-1255

Re: P-020327, Nu-West Industries, Inc., Rasmussen Ridge Mine
Proposed Revised Permit to Construct
Submittal of Final BLM ROD

Dear Mr. Hanna:

We are writing to inform IDEQ that the Bureau of Land Management ("BLM") on September 5, 2003 issued its final Record of Decision ("ROD") formally approving the North Rasmussen Ridge Mine expansion of Agrium's existing Rasmussen Ridge Mine, which are both covered by the above proposed revised Permit to Construct ("PTC"). This ROD confirms the location and configuration of the Mine and the North Rasmussen expansion, as previously described to IDEQ and outlined in the Draft Environmental Impact Statement ("DEIS") prepared by BLM in connection with this expansion and ROD.

For your information, and to supplement and confirm the documentation already in IDEQ's permit file, we are forwarding a copy of the ROD and the Draft and Final EISs prepared in connection with the ROD. The DEIS was issued in March 2003, and the FEIS was finalized in July 2003. As you know, both documents went through an extensive public notice and comment process and were widely disseminated to the Idaho Conservation League ("ICL"), GYC and other citizen and environmental groups. We understand that the DEIS was called to IDEQ's attention and provided to IDEQ by ICL in July 2003. To ensure that you have the complete DEIS, however, we are providing an official copy for your records.

We call your attention, in particular, to the following figures in the DEIS, which consist of detailed drawings of the various aspects of the Rasmussen Ridge Mine and the North Rasmussen expansion, as now formally approved by the enclosed ROD:

Page 2-2 (Site location map)
Page 2-5 (Existing RR Mine)
Page 2-11 (North Rasmussen Expansion, as approved by 9/5/03 ROD)
Page 2-15 (Final Reclamation Plan, as approved by 9/5/03 ROD)

We also note that the DEIS in Section 2.2 on pages 2-8 through 2-14 describes the planned construction and mining sequence now approved by the ROD. In addition, Table 2.2-1 on page 2-9 of the DEIS shows the approved waste rock handling schedule, and the figure on page 2-12 shows the overall mine pit construction and

* A Registered Name of Nu-West Industries, Inc.

North Rasmussen Ridge Construction Schedule

The schedule for construction of the North Rasmussen Ridge Mine is as follows. Upon receipt of application authorizations (expected in October 2003) initial development of North Rasmussen will commence at section 12500N (see Figure 2.2-1 on page 2-11 of DEIS). Mining will proceed to the north along the strike of the ore body by utilizing in-pit retreating and backfill ramps to access the lower pit areas. The North Rasmussen Pit configuration is divided into two (2) pit structures separated by about 70 feet of original ground. Refer to Figure 2.2-2 on page 2-12 of the DEIS for a long section map, which will aid in the understanding of this mining sequence.

The southern pit (referred to as Panel "A" in the DEIS) will be mined from the Central Rasmussen Pit end wall and progress north to section 16300N where it will be concluded with a 45° south facing end wall. The Panel "A" pit is scheduled to be mined from 2004 through 2007 mining seasons (fall of 2003 through fall 2007). Table 2.2-1 on page 2-9 of the DEIS illustrates the quantity of waste rock generated each year and what area of the mined out Central Rasmussen pit it will be placed as backfill. Figure 2.2-2 in the DEIS also shows the scheduled annual backfill progression with respect to the annual mining progression.

The northern pit (referred to as Panel "B" in the DEIS) will start with another, north facing, end wall about 70 feet to the northeast of the Panel "A". Panel "B" will progress north to section 19400N exposing about 1,000 feet of pit crotch. This portion of the Panel "B" Pit is schedule to be mined from 2007 through 2009, (fall of 2007 through fall 2009), with waste rock going to the mined out portion of the Panel "A" pit. The mining sequence will then discontinue in this area and move north to section 20500N leaving 1100 feet of original ground undisturbed in Panel "B". This sequencing will ensure that the northern portion of the Panel "B" pit area is backfilled during the mining process. Again refer to Figure 2.2-2 on page 2-12 of the DEIS.

Mining will proceed from section 20500N to the north extent of Panel "B" at section 23935N. Waste generated from the Reese Canyon portions of Panel "B" will be placed in the previously mined out Panel "A" pit and the southern portion of Panel "B". At the conclusion of mining the Reese Canyon area, the sequence will move back to the south, mining through the 1100 feet of original ground previously skipped from section 19400N to section 20500N. This sequencing will ensure that the northern portion of the Panel "B" pit is backfilled during the mining process. Table 2.2-1 on page 2-9 of the DEIS illustrates the annual volumes and areas of the backfill that are scheduled to receive waste rock.

At the conclusion of the mining process 1.16 million cu-yds of limestone will be rehandled to cover the ore and center waste outcrops left after mining the Panel "B" pit. During mining, this limestone material will be selectively handled and placed in the Backfill Area "C" in preparation for the rehandle process (see Figure 2.2-2 on page 2-12 of DEIS).

Figure 2.2-1 on page 2-11 of the DEIS provides a plan view of the mined out pit shell. Figure 2.2-3 on page 2-15 of the DEIS shows the configuration of the final reclamation both of the pit backfill areas and the other disturbance associated with the North Rasmussen Ride Mine.

MFG
consulting
scientists and
engineers

RECEIVED
SEP 12 2003
Department of Environmental Quality
State Air Program

MFG, Inc.
19203 36th Avenue W., Suite 101
Lynnwood, WA 98036-5772
425/ 921-4000
Fax: 921-4040

September 12, 2003

Mr. Ken Hanna
Idaho Dept. of Environmental Quality
1410 N. Hilton
Boise ID 83706-1255

Subject: Rasmussen Ridge Mine

Dear Mr. Hanna:

The purpose of this letter is to provide additional emission information related to Agrium's Rasmussen Ridge Mine, including the North Rasmussen extension that was just approved by the BLM on September 5, 2003. A transfer of ownership and an auxiliary diesel generator were the main subjects of a December 2002 Permit to Construct application that I prepared on Agrium's behalf. At IDEQ's request, we and Agrium have provided various additional materials and information to supplement the original application, and the preliminary Permit to Construct that is currently available for public review now also includes conditions related to fugitive dust control.

For your information, and to supplement and confirm the documentation already in IDEQ's permit file, I am enclosing with this letter on behalf of Agrium an emission inventory that addresses diesel-fueled generators, engine emissions from heavy duty diesel equipment, a propane boiler, and fugitive dust from mining operations, haul trucks, a screen, and wind. The inventory includes the entire site, including the North Rasmussen extension formally approved last week by the BLM. The attached emission inventory presents actual and potential emissions. Note, however, that Agrium considers the mining scenario that is the basis for our calculated potential emissions to be extremely optimistic and conservative on the side of overstating operations and activities. Therefore, our estimate of potential emissions may be overstated.

We do not believe the operation of the Rasmussen Ridge Mine generates any secondary emissions, as defined in IDAPA 58.01.01.007. The railroad tipple and ore load-out facility for the Mine is located roughly 8 miles from the area of active mining and might be considered an "off-site support facility" generating secondary emissions, but Agrium's supplemented application and this inventory have treated that load-out area and related haul roads and all resulting fugitive dust emissions as part of and included within the permitted site, which is a conservative approach.

Please feel free to call if you have any questions.

Sincerely,
MFG, Inc.

Sean Will for

Eric Hansen
Senior Consultant

Attachment: Rasmussen Ridge Mine Emission Inventory

cc: Al Haslam
Zach Miller

RASMUSSEN RIDGE MINE EMISSION INVENTORY

Source	TSP Emission Rates			PM10 Emission Rates		
	Actual Annual Emissions (tons/yr)	Potential to Emit		Actual Annual Emissions (tons/yr)	Potential to Emit	
		Hourly (lbs/hr)	Annual (tons/yr)		Hourly (lbs/hr)	Annual (tons/yr)
Propane Boiler	NA	NA	NA	0.03	0.01	0.03
Generator 287 hp	NA	NA	NA	0.54	0.45	1.98
Generator 373 hp	NA	NA	NA	1.54	0.83	3.61
Generator 483 hp	NA	NA	NA	2.85	1.06	4.65
Dozers	15.9	13.2	52.8	2.9	2.4	9.6
Blasting and Drilling	6.8	82.8	10.8	3.5	32.5	5.4
Vibratory Screen	1.5	3.0	2.0	0.8	1.5	1.0
Wind Erosion	109.0	27.1	118.8	54.5	13.5	59.3
Misc. Sources	78.5	25.5	122.0	25.2	8.3	38.6
Unpaved Roads	463	1,225	569	116	307	142
Total	675	1358	875	207	357	267

PROPANE BOILER

Emission Calculations

Operations

Max Heat Input (MMBtu/hr)	Actual Hours of Operation (hr/yr)	Maximum Hours of Operation (hr/yr)
1.334	8,760	8,760

Pollutant	Emission Factor (lb/MMBtu)	Actual Emissions		Potential to Emit	
		lb/hr	TPY	lb/hr	TPY
PM	0.004	0.005	0.03	0.005	0.03
SO2	0.002	0.003	0.01	0.003	0.01
NOx	0.16	0.204	0.89	0.20	0.89
CO	0.02	0.028	0.12	0.03	0.12

Emission Factors from AP-42 Section 1.5, Liquefied Petroleum Gas Combustion, Table 1.5-1 for a Commerical Boiler.
lb/1000 gallon emission factors converted to lb/MMBtu factors by dividing by 91.5, per page 1.5-1.

GENERATOR 1

Emission Calculations

Operations

	Engine Size (hp)	Operations		
		Actual (hrs/yr)	Max (hrs/day)	Max (hrs/yr)
Generator	207	2,376	24	8,760

Criteria Pollutant Emissions

Pollutant	Emission Factor (lbs/hp-hr)	Actual Emissions		Potential to Emit	
		lb/hr	TPY	lb/hr	TPY
PM_{10}	0.0022	0.5	0.5	0.5	2.0
NO_x	0.031	6.4	7.6	6.4	28.1
CO	0.00668	1.4	1.6	1.4	6.1
SO_2	0.00205	0.4	0.5	0.4	1.9
TOC	0.00251	0.5	0.6	0.5	2.3

AP-42 Section 3.3, Table 3.3-1, (10/96)

GENERATOR 2

Emission Calculations

Operations

	Engine Size (hp)	Operations Actual (hrs/yr)	Max (hrs/day)	Max (hrs/yr)
Generator	375	3,744	24	8,760

Criteria Pollutant Emissions

Pollutant	Emission Factor (lbs/hp-hr)	Actual Emissions lb/hr	Actual Emissions TPY	Potential to Emit lb/hr	Potential to Emit TPY
PM_{10}	0.0022	0.8	1.8	0.8	3.6
NOx	0.031	11.6	21.8	11.6	50.9
CO	0.00558	2.5	4.7	2.5	11.0
SO_2	0.00205	0.8	1.4	0.8	3.4
TOC	0.00251	0.9	1.8	0.9	4.1

AP-42 Section 3.3, Table 3.3-1. (10/96)

GENERATOR 3

Emission Calculations

Operations

	Engine Size (hp)	Operations Actual (hrs/yr)	Operations Max (hrs/day)	Operations Max (hrs/yr)
Generator	483	4,992	24	8,760

Criteria Pollutant Emissions

Pollutant	Emission Factor (lbs/hp-hr)	Actual Emissions lb/hr	Actual Emissions TPY	Potential to Emit lb/hr	Potential to Emit TPY
PM_{10}	0.0022	1.1	2.7	1.1	4.7
NOx	0.031	15.0	37.4	15.0	65.8
CO	0.00668	3.2	8.1	3.2	14.1
SO_2	0.00205	1.0	2.5	1.0	4.3
TOC	0.00251	1.2	3.0	1.2	5.3

AP-42 Section 3.2, Table 3.2-1, (10/96)

DOZER MOVEMENT

Emission Calculations

Operations

Type	Number of Dozers	Actual: Hours per Shift	Actual: Shifts per Year per Dozer	Actual: Hours per Year per Dozer	Actual: Hours per Year, All Dozers	Maximum: Hours per Day per Dozer	Maximum: Hours Per Year per Dozer	Maximum: Hours per Year, All Dozers
Ore Dozers	2.8	10	185	1,880	4,700	24	8,760	21,900
Waste Dozers	1.75	10	418	4,180	7,315	24	8,760	15,330
Shipping Dozers	1.5	10	123	1,230	1,845	16	5,840	8,760

Dozer Movement Fugitive Dust Emission Factors

TSP Emission Factor (lb/hr) = (5.7 * (s)$^{1.2}$) / (M)$^{1.3}$

AP-42 Fifth Edition Table 11.9-1 (7/98)

Equation for Bulldozing Overburden

6.9 = s, material silt content (%), mean value from AP-42 Table 11.9-3

12 = M, material moisture content (%), provided by Agrium

Sample Calculation

EF (lbs TSP/hr of operation) = (5.7 * (6.9)^1.2) / (12.0)^1.3

EF_{TSP} = 2.20 lb/hr

PM10 Emission Factor (lb/hr) = 0.75 * (1.0 * (s)$^{1.5}$) / (M)$^{1.4}$

AP-42 Fifth Edition 11.9-4 (7/98)

Equation for Bulldozing Overburden

0.75 = k, PM10 Scaling Factor

6.9 = s, material silt content (%), mean value from AP-42 Table 11.9-3

12 = M, material moisture content (%), provided by Agrium

Sample Calculation

EF (lbs PM10/hr of operation) = 0.75 * (1.0 * (6.9)^1.5) / (12.0)^1.4

EF_{PM10} = 0.42 lb/hr

Fugitive Emissions

Emission Unit	TSP Actual Annual Emissions (tons/yr)	TSP Potential to Emit: Daily (lbs/hr)	TSP Potential to Emit: Annual (tons/yr)	PM10 Actual Annual Emissions (tons/yr)	PM10 Potential to Emit: Daily (lbs/hr)	PM10 Potential to Emit: Annual (tons/yr)
Ore Dozers	6.4	5.7	25.1	1.0	1.0	4.6
Waste Dozers	8.4	4.0	17.5	1.5	0.7	3.2
Shipping Dozers	2.1	3.4	10.0	0.4	0.6	1.8
Sum	15.9	13.2	52.6	2.9	2.4	9.6

BLASTING and DRILLING
Emission Calculations

Operations

Type	Type of Material	Actual Blasts per year	Maximum Blasts per hour	Maximum Blasts per year	Annual Holes Drilled per year	Maximum Holes Drilled per hour	Maximum Holes Drilled per year
Blasting	Rock	139	1	213	NA	NA	NA
Drilling	Rock	NA	NA	NA	8,723	7	13,723

Blasting Fugitive Dust Emission Factors

TSP Emission Factor (lbs / blast) = $0.000014 * A^{1.5}$
- AP-42 Fifth Edition 11.9-5 (10/98)

25,824 =A, horizontal area (ft^2), with blasting depth < 70 feet, Provided by Agrium

Sample Calculation
EF(lbs of TSP / blast) = 0.000014 * 25824^1.5
EF_{TSP} = 58.10 lbs / blast

PM10 Emission Factor (lbs / blast) = $0.52 * (0.000014 * A^{1.5})$
- AP-42 Fifth Edition 11.9-5 (10/98)

25,824 =A, horizontal area, with blasting depth < 70 feet, Provided by Agrium
0.52 =k, scaling factor

Sample Calculation
EF(lbs of PM10 / blast) = k* 0.000014 * 25824^1.5
EF_{PM10} = 30.21 lbs / blast

Drilling Fugitive Dust Emission Factors

TSP Emission Factor (lbs / hole) = 1.3
- AP-42 Fifth Edition 11.9-10 (10/98)

EF_{TSP} = 1.3 lbs / hole
EF_{PM10} = 0.65 lbs / hole

We conservatively assumed that half of the TSP emissions associated with Drilling would be PM10.

Fugitive Emissions

Emission Unit	TSP Actual Annual Emissions (tons/yr)	TSP Potential to Emit Hourly (lbs/hr)	TSP Potential to Emit Annual (tons/yr)	PM10 Actual Annual Emissions (tons/yr)	PM10 Potential to Emit Hourly (lbs/hr)	PM10 Potential to Emit Annual (tons/yr)
Blasting	3.9	58.1	6.2	2.0	30.2	3.2
Drilling*	2.8	4.6	4.5	1.4	2.3	2.2
Sum	6.8	62.6	10.6	3.5	32.5	5.4

* = Assuming 50% reduction in emissions due to watering controls.

8" VIBRATORY SCREEN

Emission Calculations

Operations

Unit	Type of Material	Number of Units	Actual Annual Throughput (TPY)	Maximum Hourly Throughput (TPH)	Maximum Annual Throughput (TPY)
8" Vibratory Screen	Ore	1	1,650,000	1,729	2,300,000

Throughput information provided by Agrium, 09-09-03

Material Processing Fugitive Dust Emission Factors

TSP Emission Factor (lbs / ton of throughput) = Sum of (Unit EFs * Number of Units)
- AP-42 Fifth Edition 11.19.2 (1/95)

0.001764 =EF for 8" Vibratory Screen (lb / ton)
EF from Table 11.19.2-2 for Controlled Screening of PM10 due to the material's high moisture content (12%). TSP factor estimated by multiplying PM10 factor by 2.1, per footnote C, Table 11.19.2-2

PM10 Emission Factor (lbs / ton of throughput) = Sum of (Unit EFs * Number of Units)
- AP-42 Fifth Edition 11.19.2-2 (1/95)

0.00084 =EF for 8" Vibratory Screen (lb / ton)
EF from Table 11.19.2-2 for Controlled Screening due to the material's high moisture content (12%)

Fugitive Emissions

Emission Unit	TSP Actual Annual Emissions (tons/yr)	TSP Potential to Emit Hourly (lbs/hr)	TSP Potential to Emit Annual (tons/yr)	PM10 Actual Annual Emissions (tons/yr)	PM10 Potential to Emit Hourly (lbs/hr)	PM10 Potential to Emit Annual (tons/yr)
8" Vibratory Screen	1.8	3.0	2.0	0.8	1.5	1.0

WIND EROSION ON OPEN AREAS

Emission Calculations

Operations

Type	Actual Acres of Exposed Land	Maximum Acres of Exposed Land
Open Areas	287	312
Roads	163	165

Open Areas Fugitive Dust Emission Factors

TSP Emission Factor (ton / (acre)(yr)) = 0.38
AP-42 Fifth Edition 11.9-4 (10/98)

EF_{TSP} = 0.38 tons / (acre)(yr)

EF_{PM10} = 0.19 tons / (acre)(yr)

We conservatively assumed that half of the TSP emissions associated with Wind Erosion on Open Areas would be PM10.

Fugitive Emissions

Emission Unit	TSP Actual Annual Emissions (tons/yr)	TSP Potential to Emit Hourly (lbs/hr)	TSP Potential to Emit Annual (tons/yr)	PM10 Actual Annual Emissions (tons/yr)	PM10 Potential to Emit Hourly (lbs/hr)	PM10 Potential to Emit Annual (tons/yr)
Open Areas	109.0	27.1	118.8	54.5	13.5	59.3
Roads*	6.2	1.4	6.2	3.1	0.7	3.1
Sum	115.2	28.5	124.8	57.6	14.2	62.4

*The Roads emission rates include a 90% control factor due to the water and chemical dust suppressants that Agrium applies to the road surfaces.

MISC DUST SOURCES
Emission Calculations

Operations

Unit	Number of Units	Actual		Maximum	
		Miles Travelled per Year per Grader	Miles Travelled per Year, All Graders	Miles Travelled per Year per Grader	Miles Travelled per Year, All Graders
Graders	2	24,660	49,320	38,279	76,558

VMT information provided by Agrium, 09-09-03

Operations

Unit	Number of Units	Actual Annual Material Handled (TPY)	Maximum Hourly Material Handled (TPH)	Maximum Annual Material Handled (TPY)
Mining Front End Loaders	1	5,574,018	1,242	8,679,721
Shipping Front End Loaders	2	704,782	710	876,190
Steam Shovelling	1	8,824,987	1,795	13,426,250

Miscellaneous Sources Fugitive Dust Emission Factors

Grader Fugitive Dust Emission Factors

TSP Emission Factor (lb / hr) = [k(0.040(S)^2.5)]
AP-42 Fifth Edition Table 11.9-1 (10/98)
Equation for Grading

7.1 =S, mean vehicle speed (mph), mean value from AP-42 Table 11.9-3 for Grader speed

Sample Calculation, Grader
EF (lbs TSP / VMT) = [0.040(7.1^2.5)]
EF_{TSP} = 5.37 lb/VMT

Grader PM10 Emission Factors

PM10 Emission Factor (lb / hr) = [k(0.051(S)2.0)]
AP-42 Fifth Edition Table 11.9-1 (10/98)
Equation for Grading

0.6 =k, PM10 multiplier
7.1 =S, mean vehicle speed (mph), mean value from AP-42 Table 11.9-3 for Grader speed

Sample Calculation, Grader
EF (lbs PM10 / VMT) = k [0.051(7.1^2.0)]
EF_{PM10} = 1.54 lb/VMT

Front End Loader Activity Fugitive Dust Emission Factors

TSP Emission Factor (lb/ton of material handled) = k * (0.0032) * [((U/5)^1.3) / ((M/2)^1.4)]

0.74 = k, PM10 particle size multiplier
9.8 = U, mean wind speed, MPH, from Pocatello, Idaho, collected from Western Region Climate Center
4.8 = M, moisture content of material (%), although the material's moisture content is actually 12%, the moisture content range associated with this equation ends at 4.8 %

Sample Calculations
TSP Emission Factor (lb / ton) = 0.35 * 0.0032 * [((9.8/5)^1.3) / ((4.8/2)^1.4)]
EF_{TSP} = 0.001667 lb / ton of material handled

Front End Loader Activity PM10 Emission Factors

PM10 Emission Factor (lb/ton of material handled) = k * (0.0032) * [((U/5)^1.3) / ((M/2)^1.4)]

0.35 = k, PM10 particle size multiplier
9.8 = U, mean wind speed, MPH, from Pocatello, Idaho, collected from Western Region Climate Center
4.8 = M, moisture content of material (%), although the material's moisture content is actually 12%, the moisture content range associated with this equation ends at 4.8 %

Sample Calculations
PM10 Emission Factor (lb / ton) = 0.35 * 0.0032 * [((9.8/5)^1.3) / ((4.8/2)^1.4)]
EF_{PM10} = 0.000789 lb / ton of material handled

Steam Shovelling Fugitive Dust Emission Factors

TSP Emission Factor (lb/ton of material handled) = k * (0.0032) * [((U/5)^1.3) / ((M/2)^1.4)]

0.74 = k, PM10 particle size multiplier
9.8 = U, mean wind speed, MPH, from Pocatello, Idaho, collected from Western Region Climate Center
4.8 = M, moisture content of material (%), although the material's moisture content is actually 12%, the moisture content range associated with this equation ends at 4.8 %

Sample Calculations
TSP Emission Factor (lb / ton) = 0.35 * 0.0032 * [((9.8/5)^1.3) / ((4.8/2)^1.4)]
EFTSP = 0.001667 lb / ton of material handled

Steam Shoveling PM10 Emission Factors

PM10 Emission Factor (lb/ton of material handled) = k * (0.0032) * [((U/5)^1.3) / ((M/2)^1.4)]

0.35 = k, PM10 particle size multiplier
9.8 = U, mean wind speed, MPH, from Pocatello, Idaho, collected from Western Region Climate Center
4.8 = M, moisture content of material (%), although the material's moisture content is actually 12%, the moisture content range associated with this equation ends at 4.8 %

Sample Calculations
PM10 Emission Factor (lb / ton) = 0.35 * 0.0032 * [((9.8/5)^1.3) / ((4.8/2)^1.4)]
EF_{PM10} = 0.000789 lb / ton of material handled

Fugitive Emissions

	TSP Actual Annual Emissions (tons/yr)	TSP Potential to Emit Hourly (lbs/hr)	TSP Potential to Emit Annual (tons/yr)	PM10 Actual Annual Emissions (tons/yr)	PM10 Potential to Emit Hourly (lbs/hr)	PM10 Potential to Emit Annual (tons/yr)
Graders*	67.1	18.1	102.6	19.3	5.5	29.5
Mining Front End Loaders	4.8	2.2	7.2	2.2	1.1	3.4
Shipping Front End Loaders	0.8	1.2	0.7	0.3	0.8	0.3
Shovel	7.4	3.0	11.2	3.5	1.4	5.3
Sum	79.8	25.5	122.0	25.2	8.5	38.6

*The grader emission rates include a 50% control factor due to the water and chemical dust suppressants that Agrium applies to the roads.

ON-SITE UNPAVED ROADS

Emission Calculations

Unpaved Road Fugitive Dust Emission Factors

TSP Emission Factor (lb / VMT) = [(k * (s / 12)^{a} * (W/3)^{b}] / (M_{dry} / 0.2)^{c}] * [(365-p) / 365]

AP-42 Fifth Edition 13.2.2-5 (9/98)

10 =k, TSP multiplier (lb / VMT)

8.4 =s, surface material silt content (%), mean silt content for a haul road at a Western surface coal mine, Table 13.2.2-1

43.9 =W, average weight of the vehicles traveling the road (tons)

2 =M_{dry}, surface material moisture content under dry, uncontrolled conditions (%)

90 =p, number of days with at least 0.254 mm (0.01 inch) of precipitation per year, from Figure 13.2.2-1

Sample Calculation, Haul Trucks - Waste

EF (lbs TSP / VMT) = [(10.0 * (8 / 12)^0.8 * (43.90 / 3)^0.5] / (2.0 / 0.2)^0.4] * [(365 - 90) / 365]

EF_{TSP} = 8.83 lbs / VMT

Unpaved Road PM10 Emission Factors

PM10 Emission Factor (lb / VMT) = [[k * (s / 12)^{a} * (W/3)^{b}] / (M_{dry} / 0.2)^{c}] * [(365-p) / 365]

AP-42 Fifth Edition 13.2.2-5 (9/98)

2.6 =k, PM10 multiplier (lb / VMT)

8.4 =s, surface material silt content (%), mean silt content for a haul road at a Western surface coal mine, Table 13.2.2-1

43.9 =W, average weight of the vehicles traveling the road (tons)

2 =M_{dry}, surface material moisture content under dry, uncontrolled conditions (%)

90 =p, number of days with at least 0.254 mm (0.01 inch) of precipitation per year, from Figure 13.2.2-1

Sample Calculation, Haul Trucks

EF (lbs PM10 / VMT) = [[2.6 * (8 / 12)^0.8 * (43.90 / 3)^0.4] / (2.0 / 0.2)^0.3] * [(365 - 90) / 365]

EF_{PM10} = 2.18 lbs / VMT

Vehicle Miles Traveled, All Relevant Vehicles

Vehicle Type	Average Weight per Vehicle (tons)	Number of Vehicles per Type	VMT/day per Vehicle (VMT)	Actual Operation Days/week	Weeks/yr	VMT/yr, all Vehicles	Maximum Days/yr	VMT/hr	VMT/yr
1996, (10)1992, (3)1992 CAT 777C Haul Tr.	124.5	14	85	6	52	349,440	365	260	408,800
1988 Kenworth Mechanic Truck	10	1	40	7	52	14,560	365	20	14,600
1991 Ford Bus	4	1	50	6	52	15,600	365	20	18,250
1994 Ford Fuel Truck	37.5	1	50	7	52	18,200	365	20	18,250
1988 CAT 773 Lube Truck	73	1	30	6	52	9,360	365	20	10,950
1992 Ford 1T Mechanics Truck	1	2	40	6	52	24,960	365	40	29,200
1988 1854H Mechanics Truck	3	1	40	7	52	14,560	365	20	14,600
1982 Terex 11,000Gal Water Truck	73	1	50	6	36	17,280	365	20	29,200
UR M120 Water Truck	160	1	50	6	36	17,280	365	20	29,200
1994 Ford P/U Truck	20	1	40	5	52	10,400	365	20	14,600
1993 IR DML 9132 Drill	40	1	0.2	6	52	62	365	20	73
1996 Snorkel 60' Boom Lift	15.5	1	1	6	52	312	365	20	365
1997 Grove 60T RT563 Crane	110.0	1	1	6	52	312	365	20	365
1977 Grove 18T RT58 Crane	24.0	1	1	6	36	216	365	20	365
1993 CAT 16G Patrol	27	2	80	6	52	49,920	365	40	58,400
1993 IR VR50 Forklift	9	1	1	6	52	312	365	20	365
1992,1998 CAT 992C Loader	109	2	40	6	52	24,960	365	40	29,200
Bobcat Loader	4	1	1	6	52	312	365	20	365
1993 Mahlo Loader	4	1	1	6	52	312	365	20	365
1990 Chevy Steam Truck	6	1	20	6	52	6,240	365	20	7,300
1990 CAT D4H Dozer	5	1	2	6	52	624	365	20	730
1990 CAT D4H LGP Dozer	9	1	2	6	52	624	365	20	730
1991 CAT D9N SUDOZ RIP Dozer	54	1	5	6	52	1,560	365	20	1,825
(2) 1999,1989 CAT D10N Dozer	72	3	5	6	52	4,680	365	50	5,475
1989 CAT D10N U-DOZ 48MB	72	1	5	6	52	1,560	365	20	1,825
1992 CAT 834 RT Dozer	51	1	10	6	52	3,120	365	20	3,650
Ford Tire Truck	10	1	40	6	52	12,480	365	20	14,600
1995 JD Gator 6x4	0.5	1	10	6	36	2,160	365	20	3,650
2001 Polaris Sportsman 4-Stroke 6x6	0.5	1	10	1	26	260	365	20	3,650
1992 Polaris Sportsman 2-Stroke 6x4	0.5	1	10	1	14	140	365	20	3,650
1990 Ford Ambulance	4.5	1	10	1	52	520	365	20	3,650
1998, 1997 Chevy 810 4DR Blazer	2.5	2	70	6	52	43,680	365	40	51,100
1999 GMC 4DR 4x4 Jimmy	2.5	1	70	6	52	21,840	365	20	25,550
1992 Ford E250 Van	4.5	1	70	6	52	21,840	365	20	25,550
1993 Ford 1T Van	4.5	1	70	6	52	21,840	365	20	25,550
1993 Chevy 1/2T 4x4 Pickup	3	1	70	6	52	21,840	365	20	25,550
1997 Ford 1/2T 4x4 Pickup	3	3	70	6	52	65,520	365	60	76,650
1997 Ford 3/4T 4x4 Pickup	4.5	2	70	6	52	43,680	365	40	51,100
1999,1998,1991 Chevy 3/4T Pickup	4.5	3	70	6	52	65,520	365	60	76,650
1998 Dodge 3/4T 4x4	4.5	1	70	6	52	21,840	365	20	25,550
1995 Chevy Suburban 1/2T 4x4	4.5	1	70	5	52	18,200	365	20	25,550
1994 Chevy Suburban 3/4T 4x4	4.5	1	70	2	52	7,280	365	20	25,550
1998 Chevy 3/4T Pickup 4x4	4.5	1	200	6	52	62,400	365	20	73,000
1998 Chevy 3/4T Pickup 4x4	3	1	70	5	52	18,200	365	20	25,550
(2) 1995 Chevy 1/2T Pickup 4x4	4	2	70	6	52	36,400	365	40	51,100
1992 Chevy 3/4T Pickup 4x4	3	1	20	1	10	200	365	20	7,300

	Actual VMT/yr All Vehicles	Maximum VMT All Vehicles VMT/hr	VMT/yr
	1,072,600	1,420	1,319,548

Fugitive Emissions

	TSP Actual Annual Emissions (tons/yr)	TSP Potential to Emit Hourly (lbs/hr)	TSP Potential to Emit Annual (tons/yr)	PM10 Actual Annual Emissions (tons/yr)	PM10 Potential to Emit Hourly (lbs/hr)	PM10 Potential to Emit Annual (tons/yr)
All Vehicles	462.6	1,224.6	589.1	115.6	306.6	142.4

These emission rates include a 90% control factor due to watering and chemical dust suppressant application.

Figure 3-4 in EPA document 450/3-88-008, Control of Open Fugitive Dust Sources, indicates that chemical dust suppressants can achieve greater than 90% control by themselves.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Upper Snake River Districts
Pocatello Field Office
1111 North 8th Avenue
Pocatello, Idaho 83201-5789

In Reply
Refer To:
3500
I-04375

September 9, 2003

Dear Sir or Madam:

This letter is to inform you that the USDI Bureau of Land Management (BLM), Idaho State Director has signed the Agrium Conda Phosphate Operations North Rasmussen Ridge Mine Record of Decision (ROD). A copy of the ROD is attached to this letter. The Selected Alternative is the Proposed Action as described in the Final Environmental Impact Statement (FEIS). Additional mitigation measures and monitoring are required as described in the appendices of the FEIS and in the Mitigation Measures and Monitoring Requirements section of the ROD.

The BLM prepared the FEIS with the USDA Forest Service, Caribou-Targhee National Forest as a joint-lead agency that was released to the public for a minimum 30-day availability period on August 1, 2003. Three alternatives were carried forward for full evaluation in the FEIS: the Proposed Action, Alternative One (Capping Alternative), and Alternative Two (No Action Alternative). The Agencies believe the selected alternative fulfills their statutory responsibilities by giving consideration to economic, environmental, technical, and other factors. Details of the Proposed Action, alternatives, predicted environmental impacts, and mitigation measures are contained in the Draft EIS and FEIS.

The BLM's decision can be implemented after a 30 day appeal period starting September 10, 2003 which is the date that a legal notice will be published in the Idaho State Journal, Pocatello, Idaho announcing the availability of the ROD.

If you have questions regarding this letter or the project, contact:

Wendell Johnson, Project Lead
BLM Pocatello Field Office
1111 North 8th Avenue
Pocatello, Idaho 83204
(208) 478-6353

Thank you for any comments you may have submitted during the process and for your interest in the project.

Sincerely,

Phil Damon
Field Office Manager

RECORD OF DECISION
NORTH RASMUSSEN RIDGE MINE

LEAD AGENCY
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
IDAHO STATE OFFICE
1387 SOUTH VINNELL WAY
BOISE, ID 83709-1657

COOPERATING AGENCIES
PROVIDING RECOMMENDATIONS TO BLM

U.S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
CARIBOU-TARGHEE NATIONAL FOREST

AND

IDAHO DEPARTMENT OF LANDS

September 5, 2003

RECORD OF DECISION
NORTH RASMUSSEN RIDGE MINE

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RECORD OF DECISION
NORTH RASMUSSEN RIDGE MINE

INTRODUCTION

On November 19, 2001, The Bureau of Land Management (BLM) received a detailed mine and reclamation plan from Nu-West Industries, Inc., doing business as Agrium Conda Phosphate Operations (hereafter referred to as Agrium). Agrium has proposed to extend the existing mining operations at South and Central Rasmussen Ridge beyond currently approved operations and northward along the ridge onto lands administered by the U.S. Forest Service (USFS) and Idaho Department of Lands (IDL) and (hereafter, referred to as the North Rasmussen Ridge Mine). The proposed North Rasmussen Ridge Mine and Reclamation Plan would extend operations northwest from the presently permitted Central Rasmussen Ridge Mine to the non-permitted areas within Federal Phosphate Lease I-04375 and onto adjacent Federal Lease I-07619 within the Caribou-Targhee National Forest. Lease I-04375 contains 920 acres, and Lease I-07619 contains 437 acres. Lease I-04375 is totally located on the Caribou National Forest and 200 of the 437 acres of Lease I-07619 are located on Caribou National Forest land. The remaining 240 acres of Lease I-07619 are located on state land. In addition, a small strike length of the ore deposit located on the northeast corner of Section 16, T6S, R43E of the Boise Meridian (Idaho mineral lease number I-7957) was held by P4 Production, LLC. Agrium acquired the mineral rights for this lease and the IDL has reissued this lease as Agrium State Lease Number 9313.

Authority to administer minerals management functions on Federal and Indian lands was transferred from Minerals Management Service to the BLM in 1983. The BLM has overseen mine and reclamation activities on the Federal phosphate leases at Rasmussen Ridge since that time.

The purpose of the Proposed Action under consideration is to recover phosphate ore reserves contained within North Rasmussen Ridge and ship it via railroad to their Conda Phosphate Fertilizer Plant located north of Soda Springs, Idaho. The Proposed Action is needed to continue an economical supply of ore feedstock from their Federal mineral leases to their plant which produces phosphate based fertilizer to help meet demands in the United States.

The North Rasmussen Ridge Mine is located in Caribou County, Idaho approximately nineteen air miles northeast Soda Springs, Idaho. Mining described in the Proposed Action would result in additional site disturbance of 269 acres, of which 197 acres would be reclaimed.

After reviewing the North Rasmussen Ridge Mine plan, the BLM and USFS determined that an Environmental Impact Statement (EIS) should be prepared to review the mining plan and develop site-specific impact mitigation measures. This determination was made in light of significant new information that had recently become available on potentially significant impacts related to selenium and other contaminants contained in mine overburden while mining phosphate deposits. Also, a change in circumstance occurred on March 21, 2000 when the Canada Lynx (Lynx canadensis) was listed as "threatened" under the Endangered Species Act.

As the designated agency responsible for minerals management functions on Federal lands, BLM has assumed the role of lead agency responsible for the EIS. The BLM has prepared this Record of Decision (ROD) to document the agency's decision on appropriate land use authorizations for Agrium's proposal. Regulations at 43 CFR 3520.2 direct BLM to "consult with the agency having jurisdiction over the lands with respect to the surface protection and reclamation aspects" of a mine and reclamation plan. In this case, the land surface is managed by both the USFS and IDL. For this reason, the USFS and IDL have participated in preparation of the EIS as cooperating agencies and have provided recommendations to the BLM related to this ROD.

The scope of the EIS was set by and coordinated with other ongoing and planned efforts by the BLM, Agrium, USFS, IDL and other Federal and State agencies to study the effects of selenium and other metals related to existing mining disturbances. The intent of this coordination was to comply with existing inter-agency agreements which call for ensuring efficiency and reducing duplication of efforts in studying these impacts.

A Draft EIS (DEIS) on the proposed North Rasmussen Ridge Mine was prepared and released to the public in March 2003. The DEIS analyzed the environmental impacts from three (3) alternatives: two (2) action alternatives - the Proposed Action, Alternative 1, and; the No Action Alternative. These alternatives are briefly described below and are described in greater detail on following pages of this ROD:

Proposed Action

The Proposed Action includes recovering phosphate ore using open pit mining techniques standard to other mines operating in Southeast Idaho. Under the Proposed Action, the previously mined pit in Central Rasmussen Ridge would be totally backfilled with overburden from North Rasmussen Ridge. In North Rasmussen, Panel A (the southern half of the Proposed Action) and the northern half of Panel B would be totally backfilled and reclaimed. Overburden containing seleniferous shale would be placed in the lower regions of the backfilled areas. The backfilled pits would be capped with 8 to10 feet of chert and limestone and top covered with a layer of 2 to 3 feet of growth media with very low values of extractable selenium to promote proper vegetation growth. The southern half of Panel B would be partially backfilled with limestone and

top covered with 2 to 3 feet of growth media. The total disturbance associated with the Proposed Action would total 269 acres.

In response to comments received on the DEIS from agencies and the public, BLM and Agrium have developed additional mitigation measures and monitoring plans to further reduce and monitor impacts related to selenium and other constituents of concern to surface and groundwater, and from vegetation uptake from reclamation soils. The Proposed Action in the Final EIS (FEIS) forms the basis of this ROD.

Alternative 1 - Proposed Action with Impermeable Capping of Backfilled Areas

This alternative is similar to the Proposed Action except that Agrium would construct a layer of impermeable (low permeability) material between the seleniferous waste and the applied growth media to minimize potential effects of water that could infiltrate into the backfill. In Alternative 1, an additional 26 acres of disturbance in the form of an external waste rock dump would be required to reduce the overall slope of the backfill to insure slope stability associated with the placement of the impermeable layer. Capping material would be accomplished with either clay from a quarry area or from a synthetic liner. If clay were to be used, an additional 25 acres of disturbance would likely be required to either generate a quarry for capping material or for preparation material to install the synthetic liner. Total disturbance for Alternative 1 would total 320 acres.

Alternative 2 - No Action Alternative

The No Action Alternative would exclude any further disturbance at North Rasmussen Ridge. The 35-acre final pit located in Central Rasmussen would remain as an open pit.

Alternatives Considered, but Eliminated From Detailed Evaluation

Seven other alternatives were considered and eliminated from further detailed analysis because they were not considered to be reasonably practical or feasible.

The FEIS describes the components of, reasonable alternatives to, and the anticipated environmental consequences of activities associated with mining North Rasmussen Ridge, as required by the National Environmental Policy Act (NEPA) of 1969. During preparation of the FEIS, the Agencies considered comments received on the DEIS and consulted with a number of Federal, State and local agencies. The FEIS was released to the public on August 1, 2003.

DECISION

The Selected Alternative in this ROD is the Proposed Action as described in the FEIS. Additional mitigation measures and monitoring requirements are to be required as described in the appendices of the FEIS and in the *Mitigation Measures and Monitoring Requirements* section of this ROD. As a component of the Selected Alternative, I am also authorizing BLM to proceed with processing two enlargements (lease modifications) totaling 20 acres adjacent to the existing Federal mineral lease to accommodate the pit design of Panel A and to aid in maximum ore recovery within that panel. The Selected Alternative was also designated by the Agencies as the Preferred Alternative in the FEIS. This represents application and adoption of all practical means to avoid or minimize environmental harm from the Selected Alternative (40 CFR 1505.2c).

In reaching this decision, I have reviewed the North Rasmussen Ridge Mine FEIS, including the analysis of effects by alternatives and mitigation measures. The following were also considered: comments and responses received during the project scoping period and on the DEIS; anticipated environmental consequences discussed in the EIS; letters received during the FEIS 30-day availability period; and applicable laws, regulations, and policies. Further, I have carefully considered the recommendations of the Caribou-Targhee National Forest Supervisor, who is the official responsible for management of lands within the Caribou-Targhee National Forest and the Area Supervisor for Idaho Department of Lands. Both the Forest Supervisor and the IDL Area Supervisor recommended selection of the Proposed Action and appropriate site-specific conditions of approval as contained in the *Mitigation Measures and Monitoring Requirements* section that follows.

Alternatives Fully Evaluated in the EIS

Issues raised during public scoping, and during public and agency review of the Proposed Action as described in the EIS were used to identify potentially significant impacts that could result from the Proposed Action. In general, the potential effects that were evaluated include: mobilization of selenium and other contaminants to surface and groundwater resources; physical and potential contamination impacts to soil, vegetation, wildlife, livestock, wetlands, aquatic habitats, threatened, endangered and sensitive species; disturbance of watersheds, visual resources, and topography; disruption to public travel and transportation; and impacts to cultural, recreation, and wilderness resources. Consideration was also given to Native American concerns and environmental justice. These effects and other public scoping issues were used to help revise the Proposed Action and alternatives before and after completion of the DEIS, and to formulate alternatives to the Proposed Action.

Three (3) alternatives were carried forward for full evaluation in the FEIS: The Proposed Action, Alternative 1 (Capping Alternative), and Alternative 2 (No Action Alternative). The two alternatives represent a range of reasonable alternatives to the Proposed Action. Other alternatives such as underground mining, continuous mining from south to north, continuous mining from north to south, complete backfill mining, exposed pit crotch, west side haulage road, all cut pit access ramp, and no pit backfill were considered but dismissed from detailed consideration because of practicality or feasibility concerns or benefits that were not substantially different from the alternatives considered in detail (see Chapter 2 of the DEIS). Two additional proposed alternatives were identified in the comments from the DEIS. Letter 8, comment M of the FEIS suggested installation of pumps in the partially backfilled pit to remove precipitation accumulations and prevent infiltration of water through the backfilled material. This alternative was dismissed because of pump operation and maintenance that would continue in perpetuity. Furthermore, if the pumps were discontinued, the enhanced or expanded wetlands in the West Fork of Sheep Creek would likely be diminished causing removal/reduction of wetlands that would be against Federal policies. Letter 10, comments A and B of the FEIS suggested analysis of other ore bodies to supply feedstock for Agrium's Conda Fertilizer Plant. Agrium must make it's own economic decisions as to how best to feed the fertilizer plant. The BLM received a proposed plan of operations to mine a valid and existing lease held by Agrium for the North Rasmussen Ridge reserve. It is the agencies responsibility to respond to this request and either approve the plan of operations as proposed, modify the mine plan with alternatives, or disapprove the operations with the No Action Alternative. As such, a comparative analysis of the cost or other environmental factors of mining North Rasmussen Ridge with other viable phosphate reserves is not within the scope of this analysis. The fundamental question to be decided by this NEPA analysis is not how the fertilizer plant will be fed, but if the North Rasmussen Ridge reserve will be mined at this time.

Proposed Action

The proposed mining operations would consist of two open pits - Panels A and B, associated haulroads, a growth media stockpile, mine equipment parking area, and numerous runoff/sediment control facilities. The disturbed area associated with mining the proposed North Rasmussen Mine would total 269 acres. Included in this figure are 198.7 acres of open pits, 46.8 acres of haulroads, 1.2 acres for an equipment staging area and fresh water well for filling water trucks for dust suppression, 1.7 acres for water management structures, and 20.8 acres for temporary growth media storage.

Mining activities within North Rasmussen Ridge would result in recovery of phosphate ore reserves that would be processed into phosphate fertilizers at Agrium's Conda Phosphate Plant located north of Soda Springs, Idaho. Under the Proposed Action, approximately 70 million tons (MMT) of ore and overburden would be removed during the Proposed Action.

Mining operations at Agrium's Rasmussen Ridge Mine currently include drilling, blasting, loading, and hauling of ore and overburden using a shovel and truck fleet; the Proposed Action would continue those operations. Mining would proceed sequentially by opening individual mining pits along the trend (strike length) of the Phosphoria Formation outcrop until the end of Panel A. Mining would proceed into Panel B for a strike length of approximately 1000 feet, then, skip to the northern end of Panel B to mine the Reese Canyon portion of the pit to terminal depth. After the Reese canyon area has completely been mined out and reclaimed, mining would resume at the southern end of Panel B where operations were previously curtailed to mine Reese Canyon. The reasons for mining Reese Canyon prior to mining the central portion of Panel B are two-fold: 1) to insure that the critical surface features in Reese canyon are properly backfilled and water drainages to Reese Canyon are re-established, and 2) the Reese Canyon area lies within the Gravel Creek Road viewshed and, therefore, should be properly mitigated. The last area to be mined would be the center portion of Panel B. This area is the highest in elevation and has the greatest distance between the floor of the pit and the regional water table. The central portion of Panel B would be partially backfilled with non-seleniferous limestone and capped with a layer of 2 to 3 feet of growth media with very low values of extractable selenium to promote proper vegetation growth.

The reason for mining the central area of Panel B as the last panel and out of sequence along the strike length of the deposit was to place the partially backfilled pit at the highest possible elevation where run-on water could be controlled and pit ponds could be eliminated.

A best management practice (BMP) of selective handling of mine overburden would be used during the proposed operations (a BMP that Agrium is currently conducting at the Central Rasmussen operation). Waste overburden shales known to contain elevated concentrations of selenium (seleniferous) would be handled separately from other overburden. Low selenium content (blonde or light colored chert) and limestone would also be handled separately. This "blonde" chert and limestone overburden would be spread over the seleniferous overburden at a thickness of 8 to 10 feet in the backfill areas. A plan will be implemented to insure low seleniferous material would be used for the backfill cap zone. This thickness of chert and limestone cover is intended to protect the underlying seleniferous overburden shales from erosion and provide a capillary break to prevent upward migration of selenium and vegetative root penetration. Two to three feet of growth media will be spread over chert and limestone capping material prior to revegetation.

Water management would include temporary sediment ponds and culvert placements across ephemeral streams at No Name Creek and Reese Canyon. A Monitoring Plan for Surface and Groundwater is included in the FEIS. Stream Crossing Permits, as

needed, would be secured by Agrium from the Army Corps of Engineers (COE) prior to culvert installations.

Reclamation would be conducted concurrently with mining, and would closely follow completion of the backfills as outlined in the following sequence: shaping and contouring overburden; placement of the "blonde" chert and limestone cap material; spreading growth media over the chert and limestone surface; and seedbed preparation, seeding, and fertilizing.

Alternative 1 – Proposed Action with Impermeable Capping of Backfilled Areas

Alternative 1 was developed to address the issue of the potential for selenium to leach into the groundwater. As phosphate mining has developed in southeast Idaho, concern for groundwater contamination has lead to the development of various BMPs to control potential selenium migration from the mines. An impermeable (low-permeability) cover over external waste rock dumps and over backfilled areas was perceived as a way to reduce infiltration into the materials and thus reduces the potential leaching of selenium from the materials. However, in EPA's comments (see comment D of Letter 1 of the FEIS), the following reference to the effectiveness of an impermeable cap is made, "It makes little difference in the modeled water quality. This is because the amount of water infiltrating through the fully backfilled pit is relatively small to begin with (less than one inch per year) so the reduction does not make a significant difference in the overall end result."

Additional disturbance associated with this alternative ranges between 26 and 51 acres (depending on the use of either a clay or synthetic liner). The additional acreage is due to the fact that a shallower slope is required to maintain a reasonable safety factor for slope stability. In addition, the cost to benefit of the clay or synthetic liner associated with the alternative range between $9.7 to $20.5 million dollars, adding substantial costs to minimal changes in contaminant concentrations in the end results over the Proposed Action.

Alternative 2 - No Action Alternative

The No Action Alternative would involve continued mining at the Central Rasmussen Ridge mine until all ore was recovered. A No Action Alternative would preclude mining or any associated development in any of the North Rasmussen Ridge areas at this time, would not provide the required ore for Agrium's processing plant and would leave the mineral resource unusable.

The No Action Alternative would terminate mining at the conclusion of the last mining panel in the Central Rasmussen Ridge Mine and would leave a un-backfilled pit in that plan. Reclamation would proceed as outlined in the approved Central Rasmussen Ridge Mine Plan.

Under the No Action Alternative, Agrium's proposed detailed mining and reclamation plans for the development of the North Rasmussen Ridge Mine Plan would be delayed or precluded from mining in the future, pending suitable mine and reclamation plans.

Environmentally Preferable Alternative

The Council on Environmental Quality regulations at 40 CFR Part 1505.2 requires agencies to specify the environmentally preferable alternative. The environmentally preferable alternative is the alternative that will promote the national environmental policy as expressed in Section 101 of the National Environmental Policy Act. Ordinarily, this means the alternative that causes the least damage to the biological and physical environment and which best protects, preserves, and enhances historic, cultural, and natural resources.

Because mining is, by its nature, disruptive and impacts environmental resources in the mine vicinity, both in the short term and the long term, all of the action alternatives result in new disturbance, which may indicate that the No Action Alternative is the environmentally preferable choice. However, in the case of the Agrium's North Rasmussen Ridge Mine, the No Action Alternative would result in the following impacts for the foreseeable future, or until such time that an acceptable alternative mine and reclamation plan is approved by the BLM:

1. The planned open pit in the north portion of Central Rasmussen Ridge would not be backfilled and reclaimed to the extent as the partially backfilled pit in North Rasmussen Ridge. The Central Rasmussen Pit would hold seasonal runoff water that may become impacted by contaminants, such as selenium and other constituents that may be elevated above the cold water biota standards.

2. The north portion of the Central Rasmussen Ridge Mine would not be capped with limestone as planned in North Rasmussen Ridge. An adequate cap was never designed in the Central Rasmussen Plan to control selenium concentration in reclamation vegetation by covering exposed center waste shale exposed in the highwall or floor of the pit, thereby, limiting uptake of selenium through vegetation roots. Growth media was never planned to cover the pit bottom. Existing reclamation plans for Central Rasmussen Ridge, unless mitigated, would tend to accumulate selenium and other contaminates.

3. Ongoing groundwater quality impacts would occur down gradient of the last pit mined in Central Rasmussen Ridge unless totally backfilled, properly graded, capped with a low selenium chert/limestone capillary break with growth media placed to reduce permeability and promote evapotranspiration as planned in the proposed action of the North Rasmussen Ridge Mine Plan.

The Proposed Action has a smaller disturbance area footprint than Alternatives 1, but larger than the No Action Alternative. Both the Proposed Action and Alternative 1 would mitigate the existing impacts related to the Central Rasmussen Ridge Mine. Therefore, the No Action Alternative is a less environmentally preferable alternative with regard to any decision affecting either the Central or the North Rasmussen Ridge Mine.

The Proposed Action is predicted to result in a groundwater impact in concentrations greater than MCLs (maximum contaminant levels - the highest level of a contaminant that is allowed in drinking water) directly under the mined area for sulfate, TDS, antimony and manganese. Manganese (a secondary MCL) was the only constituent that showed a modeling plume extending beyond the lease boundary. Selenium, cadmium and aluminum would not exceed groundwater standards at any location that was modeled.

As mentioned in the North Rasmussen Ridge Mine Expansion Groundwater Quality Rule Clarification, the State of Idaho Department of Environmental Quality (DEQ) considers the active mineral extraction (AME) area to be those properties held in lease by Agrium or through special use permits granted to Agrium as defined by the "Active Mineral Extraction Area". For the North Rasmussen Ridge Mine this means that, while active mining is continuing, the Idaho Groundwater Quality Rule allows levels of naturally occurring contaminants to be released in groundwater at levels that exceed groundwater quality standards, if (1) the elevated levels are limited to the area specified by DEQ surrounding the AME and (2) Best Management Practices, Best Available Methods and Best Practical Methods approved by DEQ are applied. DEQ anticipates this project to comply with Idaho's Ground Water Rule (Refer to Appendix E in the FEIS).

The Proposed Action would result in the shortest time period of disturbance of surface natural resources of the two action alternatives. It would also expose seleniferous overburden to surface weathering and erosion for the shortest amount of time.

A BMP of selective handling of mine overburden would be used during the proposed operations. Waste overburden shales known to contain elevated concentrations of selenium (seleniferous) would be handled separately from other overburden. Low selenium content (blonde or light colored chert) and limestone would also be handled separately. This "blonde" chert and limestone overburden would be spread over the seleniferous overburden at a thickness of 8 to 10 feet in the backfill areas. As described below as an additional mitigation measure, a chert handling plan will be required and implemented to insure low seleniferous chert will be used for the backfill zone directly beneath the growth media cap. This thickness of chert and limestone cover is intended to protect the underlying seleniferous overburden shales from erosion and to provide a capillary break to prevent upward migration of selenium and vegetative root penetration. Two to three feet of growth media, which should encompass the root zones for all

grasses and shrubs, would be spread over the chert and limestone cover to complete the cap prior to revegetation.

The Proposed Action (with mitigation) would result in lower air pollutant emissions compared to the Alternative 1 because of less material handling. Agrium will continue to implement a dust suppression program as described in the DEIS with approval from BLM and as supplemented by the air quality permit pending with IDEQ.

Therefore, the Proposed Action which was identified as the Agency Preferred Alternative in the FEIS and is also the Selected Alternative in this ROD, is considered to be the environmentally preferable alternative.

Mitigation Measures and Monitoring Requirements (Conditions of Approval)

As a condition of approval of the North Rasmussen Ridge Mine Project, Agrium, or the current Federal lease holder, its employees, contractors, agents, assignees, and operators shall comply with the following mitigation and monitoring measures:

1. Agrium must abide by the mine and reclamation plan presented as the *Proposed Action* in the FEIS. As part of this requirement, Agrium must implement the monitoring and mitigation measures and the management practices (referred to as Best Management Practices) in the DEIS described in Chapter Two (description of the Proposed Action) and Chapter 4 (mitigation summaries) of the DEIS, and Appendix B (Surface and Groundwater Monitoring Plan), Appendix C (Vegetation Monitoring Plan), and Appendix D (Best Management Practices) of the FEIS. These monitoring and mitigation measures have been designed or incorporated to reduce, eliminate, and measure impacts to sensitive resources such as water, soil, vegetation, wetlands, wildlife, and fisheries identified in the DEIS. As new reclamation technology becomes available, Agrium may wish to incorporate them into their mining or reclamation practices. Prior to implementation, Agrium must get approval from the BLM and USFS in writing.

2. Agrium must prepare and submit the detailed plans listed below to the BLM within 60 days from the end of the appeal period of this ROD, which plans shall be at least as stringent as and include the requirements of the plans described in Chapter Two (Section 2.2.3) of the DEIS and Appendix B and C of the FEIS. Agrium must implement all such plans within 120 days from the end of the appeal period of the ROD, or 120 days from the Agencies' approval of each such plan, whichever is later, provided that Agrium will comply with the plans described in c, f and h below upon the commencement of mining activities. Proposed monitoring plans and activities must be adequate, as determined by the BLM and USFS, to measure impacts, judge effectiveness of mitigation measures, and determine compliance of mining activities with established requirements. The BLM may accept plans prepared or approved by other agencies, to fulfill, or partially fulfill this requirement.

Failure to submit suitable plans within 60 days (unless formally extended by BLM) from the end of the appeal period of the ROD, shall be sufficient for BLM to order a temporary cessation of the approved operations until such plans are received and determined acceptable by the BLM, and the USFS. BLM will consult with the USFS regarding the adequacy of all the plans. Immediately following agency approval of the above plans, Agrium will implement the plans and provide reports to the Agencies on an annual basis or as required below.

a. *Final Surface Water and Groundwater Monitoring Plan* – This plan shall be sufficient to assess project compliance with surface water and groundwater standards set by the Federal Clean Water Act, Safe Drinking Water Act, and/or applicable State of Idaho statutes and other goals and objectives listed in the North Rasmussen Ridge Mine Environmental Monitoring Plan (section 2.2.3 of the DEIS as augmented by Appendix B and C in the FEIS). Monitoring should be sufficient, as proven to the agencies, to assess the effectiveness of approved mitigation measures for the project. Once effectiveness has been demonstrated, monitoring requirements may be modified as determined appropriate by the Agencies.

Sampling frequency and groundwater and surface water monitoring sites to be monitored by Agrium will be determined in cooperation with the responsible agency (IDEQ) as outlined in that agency's approved Final Surface Water and Groundwater Monitoring Plan (Appendix B, Section 4.3 of the Surface Water and Groundwater Monitoring Plan the FEIS). In addition, BLM and Agrium have agreed to add a surface water station to monitoring any ponds that may form in the partially backfilled pit, a well in the backfilled portion of panel A, and a well on the west side of the partially backfilled pit. At a minimum, monitoring of surface water and groundwater shall continue for at least 6 years after reclamation has been completed. Exceedance of any standards identified during monitoring will be reported to the Agencies within 30 days of obtaining the results. The monitoring program will be evaluated biannually (every two years) as stated in the Surface Water and Groundwater Monitoring Plan in Appendix B of the FEIS.

b. *BMP Effectiveness Monitoring Plan* - Agrium will provide the land management agencies with an annual summary of the BMP's utilized on site (Appendix D of the FEIS) and a summary of their effectiveness supported by data. The data supplied will determine the effectiveness of the BMPs. If the BMPs are found to be ineffective, Agrium will initiate response actions approved by the Agencies.

c. *Soil Inventory/Salvage Plan.* - Prior to mining, Agrium will prepare plans to adequately determine suitability and volumes of soil and growth media materials to be salvaged and later used in reclamation activities. In addition, the plan should include a method to determine selenium content in undisturbed soil to gauge suitability of salvaged soil for use in reclamation activities. It is

recommended that Agrium follow the soil salvage "Interim Guideline" (or the most current revised USFS guideline) for selenium content as described in Guidelines for the Salvage of Topsoil and Shale Used to Reclaim and Provide a Seed Bed for Phosphate Mine Reclamation, April 2, 2003.

d. Wetlands Monitoring Plan - Agrium will document wetland mitigation activities to ensure that mitigation measures required by the U. S. Army Corps of Engineers (COE) are implemented (Plan required prior to wetlands disturbance). For the wetland areas associated with North Rasmussen Ridge, detailed monitoring requirements will be established in concert with the COE and may include monitoring of the wetland's hydrology, soil, and vegetation using specific success criteria

e. Wildlife Monitoring Plan - Agrium will plan and conduct monitoring of contaminant levels, population changes, and diversity in fish populations in No Name Creek, Reese Creek, and the West Fork of Sheep Creek downstream of the North Rasmussen Ridge mining area according to an appropriate plan approved by the agencies.

f. Cultural and Paleontological Resources Monitoring Plan – Agrium will document the avoidance of previously unknown prehistoric sites near Agrium's mining activities using observation notes and photographic documentation of site condition, and report the occurrence of any vertebrate fossils exposed during mining. Agrium will also comply with any survey or mitigation requirements of the State Historic Preservation Officer prior to disturbance of the existing conditions.

g. *Reclamation Vegetation Monitoring Plan* – Agrium will coordinate with the USFS and BLM to assess reclamation vegetation success in meeting standards and goals including species composition, diversity, cover, and Contaminants of Potential Concern (COPC) bioaccumulation. Prior to success sampling, Agrium must submit a detailed protocol describing the methods and analysis procedures to be utilized. This plan must ensure and demonstrate that vegetation growing on reclaimed mine sites does not contain concentrations of selenium or other trace metals that may be harmful to grazing livestock or wildlife (i.e., that the reclamation vegetation meets the vegetation standards provided in Appendix C of the FEIS, or final regional or site-specific standards adopted by the USFS after the date of the ROD - see #7 below). Consideration will be given in the monitoring plan to identifying plant species that may be accumulating selenium. At a minimum, the completed reclaimed areas will be monitored each year for 7 years for identification of plant species and measuring plant cover by species. Any exceedance of vegetative standards will be reported to the Agencies within 30 days of obtaining the results.

h. *Chert Handling Plan* – Agrium will develop and conduct a chert handling program as a mitigation measure to be approved by the agencies to ensure that

light colored chert, with confirmed lower selenium levels, is used as the layer to be placed under the growth media cap. This plan will insure that low selenium chert is used for the 8 to 10 foot layer that will be placed, (under the reclamation plan), on top of all other back-filled overburden materials and immediately beneath the growth media cap. At a minimum, the Chert Handling Plan will include the following mandatory requirements:

- The chert consists of all the overburden above the upper ore, excluding the growth media.
- The chert elevation level to be utilized in the 8 to 10 foot layer under the growth media will be identified and scheduled in advance of mining in order to ensure the availability of light colored chert when needed.
- As soon as the level to be utilized is exposed and cleaned of other materials, shallow (1 foot deep) channel trenches will be cut perpendicular to the bedding layers.
- A qualified Agrium employee will drive in a stake at each bedding layer and collect a representative sample from each layer.
- Each sample will have an identification number, date, location (both in plan and elevation) and sample description. Each stake will have the corresponding sample identification number associated with it.
- The samples will be sent to a 3rd party laboratory for expedited analysis.
- When the sample analysis are received, Agrium will identify and mark which bedding layers can be used in the 8 to 10 foot layer under the growth media cap. The present USFS guideline of 13 ppm selenium for growth media will be utilized as a cutoff level for placement of chert capping material. Chert zones not meeting the acceptable criteria level will be treated similar to selenium waste shales and placed below the capping layer.
- The channel trenches will be placed at 500 foot intervals along the strike of the mined beds.
- Trained and qualified Agrium employees will conduct all sampling and staking related to the Chert Handling Plan.
- The appropriate Agencies will be notified in advance of all chert identified as capping material. Chert capping material staked and lab results associated with that material will be reviewed and verified by both Agrium's trained and qualified employees in conjunction with appropriate agency personnel prior to backfill capping placement.

3. Agrium must provide the land management agencies copies of their plans for conducting research on public lands. Agrium will promptly provide the BLM and USFS with copies of subsequent reports developed from data collected on Federal lands.

4. As part of their annual operations report to the BLM, USFS and other state and federal agencies, Agrium will provide a report of all the environmental monitoring data required to be gathered in the approved North Rasmussen Ridge Mine and Reclamation Plan (the general plan as well as site specific plans for South, Central and North Rasmussen Ridge Panels).

5. Reclamation seed mixes must be approved by the USFS for use on National Forest System lands at the Rasmussen Ridge site. Seed mixes proposed by Agrium may be subject to change pending completion of agency research projects on reclamation plant mixtures and administrative objectives. In an effort to achieve a post mine condition suitable for multiple use management, Agrium will work with the USFS to increase the bucket planting density and number of tree and shrub species used in reclamation activities. However, the potential for adverse impacts from selenium or other contaminant uptake into planted trees and shrubs will be considered prior to planting at reclaimed sites. A proposed reclamation seed mix and container plantings of native shrubs and trees is listed in the DEIS on Tables 2.2-4 and 2.2-4 (pg. 2-34 and 2-35).

6. Agrium will perform nutrient analysis on reclamation soils to ascertain the optimum soil fertilization type and rate to ensure success of reclamation plantings.

7. Reclamation on North Rasmussen Ridge must meet the standards for selenium in reclamation vegetation as stated in Appendix C of the FEIS. This requirement may be modified by a regional or site-specific reclamation standard adopted by the USFS after the date of this ROD. (A final standard for phosphate mine sites in Southeast Idaho may be developed in the future by the Federal land management agencies after additional study and public comment.) Established standards must be reached before the agencies will consider releasing the reclamation bond for the project.

8. Agrium will conduct testing (in addition to the monitoring described in #2a above) approved by the agencies to validate the predictive groundwater impact model used in the DEIS. Results from this further testing and modeling will be made available to the Agencies involved. Field monitoring such as drill holes in existing backfill will also be used, as applicable, to further validate the prediction model. Corrective actions may be required if results show a need to enhance environmental protection.

9. Prior to commencement of ground disturbing activities, an actual cost

reclamation bond for the first year of reclamation costs will be required. Agrium will provide to the appropriate responsible Agencies information needed to complete an actual cost reclamation bond for the selected action and other associated activities on the remaining areas of existing or planned disturbance related to Rasmussen Ridge. The responsible Agencies will grant a sixty (60) day time period to Agrium to provide information to calculate the remaining portions of the actual cost reclamation bond. The amount of the bond will consist of the estimated actual cost to the government to reclaim disturbances created at the North Rasmussen Ridge Mine. The bond shall also include three months projected lease production royalties. Agrium will conduct a review and, if necessary, recalculation of the bond on an annual basis. Bond amounts will be estimated considering development and reclamation phases of the entire Rasmussen Ridge Mine project.

10. Agrium will provide the BLM and USFS with supplements (modified drawings, maps, and narrative) to the North Rasmussen Ridge Mine and Reclamation Plans that were previously submitted to the Agencies. The supplements must fully reflect the final Mine and Reclamation Plan activities approved in this Decision. The information on file with the agencies must meet requirements of 43 CFR 3592.1-3, [Mining Operations] Plans and Maps.

11. Agrium will inspect the reclaimed areas during each growing season for noxious weeds or undesirable plant species. Any of these undesirable species found will be controlled by measures approved by the surface management agencies.

12. Agrium must acquire and abide by the terms and conditions of all other permits and approvals from other Agencies with jurisdiction over the North Rasmussen Ridge Project.

Rationale and Management Considerations

This decision is one that involved a balancing of several considerations. The BLM is charged with promoting orderly and efficient mining operations and production practices without waste or avoidable loss of minerals or damage to deposits; to encourage maximum recovery and use of all known mineral resources; to promote operating practices which will avoid, minimize or correct damage to the environment - land, water and air - and avoid, minimize or correct hazards to public health and safety.

Non-renewable phosphate resource conservation and recovery as granted by legal lease rights previously purchased by Agrium from the Federal government were balanced with public interests, surface resources management, and responsible environmental protection. As the right and approval to mine the North Rasmussen Ridge phosphate deposit had previously been granted to Agrium, the decision on this analysis is focused on selecting appropriate mitigation for environmental impacts from mining.

The right to mine carries with it the responsibility to ensure that mining operations include adequate and responsible measures to prevent unnecessary or undue degradation of the public land, compliance with other established requirements which include but are not limited to, the Federal Endangered Species Act, Migratory Bird Act, Federal Land Policy and Management Act, Clean Water Act, Clean Air Act, and the Idaho Groundwater Quality Rule and to provide for reclamation and post mine land uses. The right to mine is subject to review and approval of site-specific mine development plans, alternatives, and application of appropriate mitigation measures that address these requirements.

Some of the important considerations in reaching this decision are:

Degree to which the proposed mitigation measures reasonably minimize impacts to environmental resources;

Predicted effects of the Selected Alternative and other alternatives on groundwater and surface water quality in the area as compared to State and Federal requirements;

Ultimate maximum recovery of phosphate ore from the Federal leases, and;

The coordination and evaluation of impacts related to the environment in this EIS and with other ongoing studies by Agrium in conjunction with other State and Federal agencies.

The residual impacts to environmental resources are in impacts to groundwater quality, which became a major focus of the environmental impact analysis and mitigation planning. During the course of preparing and issuing the FEIS, extensive coordination and direction on groundwater quality compliance was obtained from the Idaho DEQ, which is the agency authorized to enforce groundwater protection requirements in the State of Idaho.

Once mitigation measures were added to the Proposed Action to decrease predicted impacts to groundwater quality, the action alternatives became somewhat functionally equivalent with respect to environmental impacts and predicted compliance with established requirements. Cost to implement each alternative then became a consideration in making the most reasonable decision.

Rationale - Proposed Action /Agency Selected Alternative

The BLM's Selected Alternative is the Proposed Action, as described in the FEIS. This alternative was also designated as the Agency Preferred Alternative in that document. The Agencies believe this alternative fulfills their statutory mission and responsibilities,

giving consideration to economic, environmental, technical, and other factors. The Selected Alternative results in a smaller acreage of disturbance, and consequent physical impacts to soils, vegetation, wildlife, and grazing as action Alternative 1, while allowing Agrium to potentially recover the same quantity of phosphate ore. The Selected Alternative results in less air emissions because less waste rock would need to be rehandled. The potentially shorter disturbance time frame of the Selected Alternative reduces the length of time that potential impacts may occur during physical disturbance of North Rasmussen Ridge.

The Selected Alternative and Alternative 1 both have equivalent reclamation plans and standards for reclamation. The Selected Alternative overburden rehandling and reclamation are less costly for Agrium to implement and less cost may allow greater utilization of the non-renewable phosphate mineral resource than the other action alternatives. Agrium will likely be able to mine longer in the North Rasmussen Ridge impact area before moving on to other potential mining areas.

The Selected Alternative and Action Alternative 1, although small, are predicted to have equivalent effects on both Reese Creek and West Sheep Creek stream channels, flow rates, erosions and sedimentation, and wetlands. Exceedences of MCLs of secondary standards for manganese occur in the modeling results for both action alternatives; however, background levels in surface and groundwater baseline samples taken prior to mining demonstrate similar results prior to disturbance. After considering the modeling used to derive these predictions, the BLM has selected the Proposed Action. The predicted effects on groundwater quality are based on conservative modeling and may be less than predicted and are localized within the mine area and are not predicted to impact surface resources or human health.

Selective placement of overburden deep within previously mined pits and the elimination of external waste rock dumps in conjunction with surface runoff management will reduce the potential for development of seleniferous seeps and will reduce the area of significant groundwater impacts from seepage through seleniferous overburden.

The BLM and the IDEQ realize that groundwater modeling is not an exact science. Modeling has been conducted utilizing reasonable, and in most cases, conservative parameters. The predictions made by the groundwater model utilize the best predictive techniques currently available to determine the location and levels of impacts. The general conclusion of the analyses is that groundwater impacts would not exceed applicable requirements. This conclusion is confirmed by the Ground Water Regulatory Agency (IDEQ) in their letter dated June 30, 2003 (see Appendix E of the FEIS) that "DEQ anticipates this project to comply with Idaho's "Ground Water Quality Rule".

The selective handling of overburden would result in a minimum 8 to10 foot thick limestone/chert cap over all areas of seleniferous overburden to prevent its long-term

release to the environment through vegetative uptake, direct contact, or erosion. All disturbed areas would also be covered with 2 to 3 feet of native soil (growth media) for re-establishment of permanent vegetative cover. These and other management practices are expected to reduce to acceptable levels impacts to surface resources including soils, surface water, vegetation, wildlife, livestock grazing, visual resources, and recreational uses of the public land.

Many of the proposed mitigation measures and overburden drainage control design components for the Selected Alternative are relatively new to the southeast Idaho phosphate mining industry. I acknowledge that there is a certain risk in approving application of these new measures and allowing implementation. Little or no benefit was demonstrated between the Selected Alternative and Alternative 1 related to risk associated manganese in groundwater. Although equally predicted to be effective, Alternative 1 was much more costly and did not allow Agrium to be given a chance to respond to issues by applying principles of science and engineering to come up with successful, cost effective designs to operate in a competitive market while meeting the mandates of BLM to ensure that this project does not unnecessarily or unduly degrade the environment and comply with established requirements.

It is important that the BLM be able to monitor, assess and control the various components of the Selected Alternative for North Rasmussen Ridge in concert with the USFS and other responsible State and Federal agencies. For this reason, I am conditioning approval to include the extensive monitoring and reporting, Quality Assurance and Quality Control, and contingency planning explained in the Mitigation Measures and Monitoring Requirements section of this ROD and in the associated sections of the FEIS (Appendices B, C and D). This data will also provide useful data for the BLM and surface management agencies to use in evaluating future phosphate mining proposals in Southeast Idaho. If monitoring data indicates unacceptable impacts or that certain management practices are not as effective as anticipated, Agrium will take corrective action as directed by the authorized agency(s). These corrective actions will be triggered by immediate reporting of results and exceedances of established standards and the corrective actions will be determined as appropriate for the situation. This will allow the Agencies to ensure that the public good be met as well as accommodate the purpose and need of Agrium's North Rasmussen Ridge mining proposal.

Rationale - Alternative 1 – Proposed Action with Impermeable Capping of Backfilled Areas

As seen from the above discussion, Alternative 1 exhibits little or no advantages over the Selected Alternative as shown in groundwater modeling. However, compared to the Selected Alternative, it would have increased the overall footprint of the mining disturbance by 51 acres (26 acres for an external waste rock dump and 25 acres for a borrow area to provide suitable capping material). Increases to collateral impacts associated with the additional disturbed acreage such as air quality, surface water, groundwater, wildlife, soils, vegetation, viewsheds, and extended mining durations associated with Alternative 1 makes this alternative less viable.

Alternative 1 was formulated to greatly reduce the potential contamination of downward flowing groundwater into the regional aquifer. Other BMPs such as proper slope grading by constructing convex dump faces, eliminating run-on water from entering backfill, and compacting layers of backfill close to the growth media interface were developed to greatly reduce the overall seepage of groundwater through run-of-mine overburden. (Refer to Appendix D in the FEIS).

In light of this information, it seems unreasonable to require an approach like Alternative 1 at this time.

Rationale – Alternative 2 - No Action Alternative

Under this alternative, additional impacts to surface resources associated with public land administered by USFS and BLM from the North Rasmussen Ridge Mine, Panels A and B would be precluded until such time as an acceptable Mine Plan could be approved. Adoption of the No Action Alternative would interrupt the phased development of the Agrium North Rasmussen leases until more suitable mitigation plans are approved by the Agencies.

The environmental impacts from the No Action Alternative include ongoing presence of the un-backfilled, open pit in Panel C of the present Central Rasmussen Ridge Mine. Potential groundwater impacts from Central Rasmussen Ridge Mine would continue with no mitigation. These impacts can be mitigated with continued phosphate mining in North Rasmussen Ridge which is part of the overall phased development of the Rasmussen Ridge leases previously approved by the Agencies.

This alternative does not address the nation's consumption and demand for phosphate rock and phosphorus based products. Because of this demand, implementation of the No Action Alternative would shift impacts from mining in the North Rasmussen Ridge Mine to other locations. As this area has already been affected by mining impacts, it is prudent to keep mining activities in the same vicinity of past impacts rather than transfer mining impacts to other, possibly un-impacted locations sooner than necessary.

The No Action Alternative is not in harmony with mineral lease development rights purchased by Agrium from the United States because reasonable and acceptable mitigation measures have been developed and incorporated into the Selected Alternative that are predicted to ensure that unnecessary or undue degradation does not occur to the environment. Agrium has invested a significant amount of time and expense in acquiring and holding their phosphate leases, exploring the deposit, and preparing a mine and reclamation plan that addresses ore recovery with due regard to protection of the environment. Should the No Action Alternative be selected at this time, Agrium would continue to revise the mine plans, with the likely result being mining in North Rasmussen Ridge at some later date. In the interim period, the Rasmussen Ridge Mine would likely have to needlessly shut down causing hardship to the employees, company, and the economy of the region.

Having a supply of minerals available for consumption by society results in trade-offs being made and accepting reasonable levels of environmental impacts. However, the impacts must not be unnecessary or undue and should be predicted to not exceed thresholds of applicable laws. It is my responsibility as the Authorized Officer for the BLM, who is charged with multiple use management, to ensure that these impacts are mitigated to acceptable levels. If they cannot be mitigated to acceptable levels, then mining is not an appropriate use of the affected lands.

I have decided that the predicted impacts associated with the proposed North Rasmussen Ridge Mine can be mitigated to reasonable and acceptable levels in the Selected Alternative. The Action Alternative - Selected Alternative and Alternative 1 are predicted to comply with established requirements, without unnecessary or undue degradation of the environment. The selection of the No Action Alternative is inappropriate at this time.

PUBLIC INVOLVEMENT

To allow an early and open process for determining the scope of significant issues related to the North Rasmussen Ridge Mine, (40 CFR 1510.7), the BLM and USFS provided a public scoping period. A Notice of Intent to prepare the EIS was published in the Federal Register on May 18, 2001. A scoping notice was published in the Caribou County Sun in Soda Springs, Idaho (May 24, 2001) and in the Idaho State Journal, Pocatello, Idaho (June 4, 2001) newspapers.

The public mailing list was compiled and 120 scoping letters were sent to interested individuals, agencies, and groups. Two public meetings were held. One meeting was held in Soda Springs, Idaho June 4, 2001 at the City Hall chamber room and the other in Pocatello, Idaho on June 5, 2001 at the BLM Pocatello Field Office. The open house meetings provided a project description, photo displays of the project area, and a forum for exchange of information and ideas or concerns related to the project. Comment

forms were available at the meetings. Agency and consultant representatives were present.

By the close of the scoping period on July 5, 2001, three written responses and six comment forms had been received for the North Rasmussen Ridge Mine development. Two additional letters were received after the end of the scoping period and were considered as part of the scoping record. Issues contained in the scoping responses were incorporated and assessed in the EIS.

A DEIS was prepared and sent for review to individuals and organizations on the project mailing list and other government agencies. The DEIS was filed with EPA and a Notice of Availability published in the Federal Register on March 7, 2003. The DEIS was available for comment for 60 days. During the preparation of the DEIS, a mailing was sent to the entire North Rasmussen Ridge Mine EIS mailing list as to whether or not the recipients wished to receive a copy of the DEIS. The FEIS mailing list was revised based upon the response from this mailing.

Twelve comment letters were received on the DEIS. These letters were reviewed, a detailed content analysis completed, and a response to each substantive comment prepared. The comments and responses are contained in Appendix A of the FEIS and were used to assist in preparation of the FEIS.

BLM filed the North Rasmussen Ridge Mine FEIS with the EPA. EPA and BLM each published a Notice of Availability in the Federal Register on August 1, 2003. The FEIS was issued and released to the public just prior to that time. Legal notices announcing the availability of the FEIS were published in the Idaho State Journal (Pocatello, Idaho) and Caribou County Sun (Soda Springs, Idaho). The availability period for the FEIS was commenced on August 1, 2003 for a minimum of 30 days prior to this Record of Decision.

The BLM received comments on the FEIS from both the Greater Yellowstone Coalition on August 28, 2003, and from the Idaho Conservation League on August 29, 2003. Pertinent issues are addressed within this ROD. Generally, comments from both of these organizations focused on similar issues which are listed below:

1. Chert Cap Quality Assurance/Quality Control Plan
2. Monitoring plans for vegetation, groundwater and surface water.
3. Ground and surface water quality.
4. Air quality and an IDEQ "Permit to Construct" issues.
5. Consideration of Alternative 1, the "Clay or HDPE Liner Alternative" and Alternative 2, the "No Action Alternative".

Responses related to their comments are addressed throughout this ROD.

The BLM received an additional letter from the Idaho Conservation League on September 4, 2003 that reiterated several issues. These issues have been addressed in the DEIS, FEIS, and in this ROD and through recent correspondence with IDEQ.

Ashley Creek Mining Company also commented on the FEIS and maintains, "So long as the agency has the right it asserts to "disapprove the operation with the No Action Alternative", it is required to fairly discuss and compare economically reasonable alternatives for feeding the Conda plant which have lesser environmental impacts".

Ashley Creek failed to mention in their comments that previous investigations of the potential to purchase ore from Ashley Creek's properties have been performed by Agrium prior to the issuance of the DEIS. Those earlier findings disclosed that Ashley Creek's Utah lease reserves are completely undeveloped, have no mine plan, have no necessary permits or environmental studies, have no ore handling or beneficiation facilities, have no roads or transportation infrastructure and would require an extensive period of time and infusion of capital even to begin mining and shipment of ore. The status of those undeveloped reserves was described in detail in the recent court decision in Ashley Creek Phos. Co. vs. Chevron USA. Inc., 315 F.3d 1245 (10th cir. 2003), pet. cert. pending. As a result, those reserves would plainly not meet the purpose and needs of the proposed action. Furthermore, a letter received by Agrium from Mr. Archer dated April 15, 2002 indicated that the potential purchase of ore from Ashley Creek was not economically feasible in the short or long term to Agrium, and that Ashley Creek itself intended instead to exercise options on other more promising fronts.

In any event, BLM is not required under NEPA to perform a comparative economic analysis of Ashley Creek's and every other conceivable alternative phosphate ore deposit. BLM has properly fulfilled its duty under NEPA to consider and take a hard look at reasonable alternatives to accomplishing the properly identified purposes and needs of the proposed action. BLM is not required to evaluate alternatives that clearly do not meet those needs or that are remote and speculative.

One commenter requested that BLM require Agrium to apply to the Idaho Dept. of Water Resources (IDWR) for a water right in connection with Agrium's land disturbance activities in the upper reaches of the West Fork tributary of Sheep Creek, in order to help protect the commentor's 0.03 cfs water right located downstream on lower Sheep Creek, near the confluence of Lane's Creek. BLM has no authority to require such an application. As a legal matter, BLM understands, and IDWR has confirmed, that these land disturbance activities do not constitute the exercise of, and are not eligible to receive approval from the State for a water right under Idaho law. In addition, the water intercepted by mining activities in the upper reaches of the West Fork tributary of Sheep Creek will constitute only a minor percentage, 1.2%, of the total flows available downstream in lower Sheep Creek, so this small water right should not be materially impacted as a practical matter.

CONSISTENCY WITH LAND USE PLANS AND OTHER LAWS

My decision is consistent with established requirements including environmental protection requirements, specifically:

The Selected Alternative is subject to the *Revised Forest Plan for the Caribou National Forest* approved February 2003. The land use plan has been reviewed and a determination made that the proposed mineral development action conforms with the goals and objectives of the plan. The USFS has recommended selection of the Proposed Action (with mitigation) by letter dated August 19, 2003.

Mining in North Rasmussen Ridge is also subject to the BLM *Pocatello Resource Management Plan* approved January 8, 1988. This land use plan has been reviewed and a determination made that the Selected Alternative conforms with the plan's terms and conditions as required by 43 CFR 1610.5.

Endangered Species Act - The BLM has coordinated with the U.S. Fish and Wildlife Service (FWS). A Biological Assessment was prepared for the project which states, that implementation of the Selected Alternative and associated mitigation measures specified for the North Rasmussen Ridge Mine may affect but is not likely to adversely affect the Canada lynx and may affect but is not likely to jeopardize the continued existence of the gray wolf. The FWS acknowledged the conclusions of no affect for the bald eagle and the yellow-billed cuckoo as presented in the Biological Assessment. By letter dated June 21, 2003, the FWS has concurred with the Biological Assessment in their Biological Opinion (Appendix F of the FEIS), thus, the project has met the requirements of the Endangered Species Act.

Migratory Bird Treaty Act -The Selected Alternative is not expected to violate any provisions of the Migratory Bird Treaty Act.

Federal Lands Policy and Management Act and Land Use Plans - This decision has been reviewed for compliance with land management agency policies, plans, and programs. The Selected Alternative is in conformance with the direction for mineral development contained in the BLM Pocatello Resource Management Plan, 1988 and the Revised Forest Plan for the Caribou National Forest, February 2003. The project has also been mitigated to ensure that unnecessary or undue environmental degradation does not occur. Approval of the project also recognizes the policy of multiple land use and the Nation's need for domestic sources of phosphate minerals.

Clean Air Act and *Idaho Groundwater Quality Rule* - Idaho DEQ is authorized to enforce groundwater and air quality standards in Idaho. DEQ has reviewed the mine plans, and

the groundwater impacts predicted in the DEIS. DEQ and Agrium have reached agreement on the terms of an adequate monitoring plan, pursuant to the Environmental Protection and Health Act, regarding groundwater quality and the North Rasmussen Ridge Mine Plan. The monitoring plan addresses issues both during and after active mineral extraction. Given DEQ's review of the monitoring plan, DEQ believes the mine operation on North Rasmussen outlined in the Selected Alternative shall be consistent with state groundwater and air quality standards.

Clean Water Act and *Safe Drinking Water Act* - The effect of the project on surface water quality has been modeled and presented in the DEIS. Impacts to surface waters, including seeps, springs, and creeks, are not predicted to exceed applicable numerical water quality standards in the Clean Water Act (CWA).

No culinary water wells are located within the vicinity of the Selected Alternative.

Mining and Minerals Policy Act - The Selected Alternative is in harmony with direction given in the Act to foster and encourage private enterprise in development of economically sound and stable domestic mining and minerals industries, orderly and economic development of domestic mineral resources, and reclamation of mined land. It is the responsibility of the Department of Interior to carry out this policy when exercising authority under such other programs as are authorized by law.

Mineral Leasing Act - The Selected Alternative will allow Agrium to exercise their existing mineral development rights granted in their Federal mineral leases. It also allows modification of an existing lease to include necessary overburden stripping and mine facilities and helps assure that ultimate maximum recovery of the mineral resource can occur. Agrium will pay annual rents and a 5% gross value royalty on phosphate production to the United States. Half of the money collected will be returned to the State of Idaho.

National Environmental Policy Act - The proposal has the potential to result in significant effects to the environment. As a result, the North Rasmussen Ridge Mine EIS was prepared to comply with this statute.

IMPLEMENTATION AND APPEAL RIGHTS

Any party who is adversely affected by this decision has a right to appeal to the Interior Board of Land Appeals, in accordance with the provisions described in 43 CFR Part 4. A person who wishes to appeal must file in the office of the State Director, Bureau of Land Management, Idaho State Office, 1387 South Vinnell Way, Boise, ID 83709-1657, who made the decision to file a notice that he wishes to appeal. This notice must be filed within 30 days after September 5, 2003, which is the signature date of this Decision and the date the Notice of Availability of this Record of Decision was published in the

Idaho State Journal, Pocatello, Idaho. The notice of appeal must identify the decision being appealed and may include a statement of reasons for the appeal and any argument the appellant wishes to make. If the notice of appeal does not include the statement of reasons for the appeal, the appellant shall file such a statement with the Interior Board of Land Appeals, Office of Hearings and Appeals, 4015 Wilson Boulevard, Arlington, Virginia 22203, within 30 days after the notice of appeal was filed. The appellant shall serve a copy of the notice of appeal and of any statement of reasons and arguments on the Field Solicitor, U.S. Department of the Interior, Federal Building & U.S. Courthouse, 550 West Fort Street, MSC 020, Boise, ID 83724, not later than 15 days after filing the document. Service of the copy may be made by delivering the copy personally or by sending it by registered or certified mail, return receipt requested.

Implementation of this decision may begin at the close of an appeal-filing period which begins today and ends 30 days after publication of a legal notice announcing the availability of this ROD in the Idaho State Journal, Pocatello, Idaho.

K. Lynn Bennett
Idaho State Director
Bureau of Land Management

September 5, 2003
Date

MFG, Inc.
9203 36th Avenue W., Suite 101
Lynnwood, WA 98036-5707
425/ 921-4000
Fax: 921-4040

consulting
scientists and
engineers

December 20, 2002
P-020327
029-00031

Mr. Dan Salgado
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Re: Permit to Construct for Surface Mines

Dear Mr. Salgado:

Nu-West Industries, Inc. (Nu-West) is the lessee and operator of a phosphate ore surface mine (the Rasmussen Ridge Mine) in Caribou County, north of Soda Springs, Idaho. The mine has been in operation since 1991. Nu-West acquired the lease for the mine in 1998 from Rhodia.

As part of a recent internal environmental audit of its operations, the Nu-West audit team reviewed the air quality permit status and history for the mine. Nu-West determined that the prior owners had obtained a Permit to Construct (PTC) No.029-00031 for a Caterpillar Model 3412 diesel generator to provide electrical power for the mine office and shop, but the audit revealed that the permit is still in Rhone-Poulenc's name. The audit also reviewed correspondence between Rhone-Poulenc and DEQ regarding Title V air permitting issues and notes from a meeting between Rhone-Poulenc representatives and Ms. Sue Richards of DEQ on December 2, 1997, shortly before the sale of the mine to Nu-West. The notes indicated Ms. Richards confirmed that the mine was not subject to Title V permitting requirements.

In response to these initial audit findings, Nu-West requested that MFG, Inc. confirm that its air permitting status was in compliance with state and federal regulations. I recently inspected the mine and observed the following sources of air emissions:

- the permitted diesel-fueled generator, an adjacent backup diesel-fueled generator, and a number of smaller portable diesel-fueled generators
- mobile equipment engaged in mining and hauling ore from the mining area to a railcar loadout point
- an ore hopper, underground grizzly screen, conveyors, and railcar loading hopper.

My review indicates that the only stationary point sources of emissions at the mine are the permitted generator, the adjacent standby generator, and a generator powering the well that provides water for dust control. The mine roads, excavation area and the loadout facility are sources of fugitive dust, although mine operators indicate the 10-12 percent moisture in the ore minimizes dust at both the mine and the loadout area. In addition, dust from the haul roads is regularly controlled by a water truck and the occasional use of magnesium chloride as a dust suppression additive, as specified in the mine's BLM – approved and administered Mine Plan.

Portable generators are used to power lights that enable mining to occur at night. The attached table identifies the size of the generators, the most recent 10 months' operating hours, and the exemption criteria under IDAPA 58.01.01. We find that all existing light plants are small enough to be exempt, regardless of how many hours they operate. The generator serving the well is larger, but the mine's records indicate that its hours of operation also make it exempt, as also reflected in the attached table.

However, the standby generator that serves as a backup to the primary generator appears to have operated too many hours to qualify for an exemption. The mine uses this standby generator rather than the larger permitted generator on weekends, when less power is needed to support the administration building and shop. Given that the standby generator is half the size of the larger, permitted generator, we would expect a net reduction in emissions from this practice.

In our brief conversation at your office on October 3, 2002, you confirmed that DEQ generally does not require surface mines to obtain permits to construct or operating permits if the only substantive source of emissions is fugitive dust from roads and mining operations. As a result, it is our understanding that no air permit is required for those mine-wide fugitive dust emissions. If our understanding is incorrect in any way, please notify Nu-West or me immediately.

In sum, our investigation and analysis has concluded that the following actions are needed:

1) the permittee in existing PTC No. 029-00031 should be changed from [redacted] to Nu-West Industries, Inc., and
2) that existing PTC should be modified to allow the use of the standby generator when the larger primary shop/office generator is not operating. A PTC application describing the smaller standby generator is attached.

Please consider this a formal request on behalf of Nu-West Industries to correct and modify PTC No. 029-00031. Please feel free to call me, or Rob Squires at Nu-West (208) 574-2420, if you have any questions or require any additional information. Thank you for your assistance.

Sincerely,
MFG, Inc.

Eric Hansen
Senior Consultant

Rob Squires – Nu-West Industries, Inc.

Summary of Rasmussen Ridge Mine Generators

Source	Operating hours over last ten months	Average monthly operating hours	Horse Power	IDAPA 58.01.01 Section 222 exemption criteria
Light Plants				
#8652	1,507	1,808	11	All exempt because less than 100 hp
#8682	2,549	3,059	20	
#8692	2,593	3,112	27	
#8802	2,869	3,443	27	
#8812	2,438	2,926	27	
#8822	2,658	3,190	27	
#8872	2,466	2,959	27	
#0031	966	1,159	27	
#5003	1,918	2,302	27	
Generators				
#0002 (well)	2,076	208	207[1]	Exempt if <225 hrs/month
#5001 (standby)	2,456	246	375	Exempt if <225 hrs/month
#5004 (shop/office)	4,886	489	810	Not Exempt: Permitted for continuous operation
1) Estimated horsepower for a 155 kw generator				

029-0 0031 P-020327

RECEIVED
DEC 23 2002
DEPARTMENT OF ENVIRONMENTAL QUALITY
STATE A/O PROGRAM

STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY

APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

(IDAPA 58.01.01.200-.225)

SECTION 1: GENERAL INFORMATION

1. COMPANY AND DIVISION NAME: Nu-West Industries, Inc			
2. MAILING ADDRESS: 3010 Conda Road		COUNTY: Caribou	NUMBER OF FULL-TIME EMPLOYEES: 115
3. CITY: Soda Springs	STATE: ID	ZIP CODE: 83276	TELEPHONE NUMBER: (208) 547 4381
4. PERSON TO CONTACT: Rob Squires		TITLE: Environmental/Safety Coordinator	
5. EXACT PLANT LOCATION *(IDENTIFY LOCALITY, AND INCLUDE UTM COORDINATES IF KNOWN)*: SE 2/4, NE 1/4 Section 26, T6S, R43E			
6. GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS: Phosphate Mine			

7. REASON FOR APPLICATION

- ☐ permit to construct a new facility
- ☒ permit to modify an existing source — permit number 02900031
- ☐ permit to construct a new source at an existing facility
- ☒ change of owner or location — permit number 02900031 — current owner Rhone-Poulenc

8. LIST ALL FACILITIES WITHIN THE STATE THAT ARE UNDER YOUR CONTROL OR UNDER COMMON CONTROL AND HAVE EMISSIONS TO THE AIR. IF NONE, SO STATE.

NAME	LOCATION
Agrium (Nu-West Industries) Conda Phosphate Operations in Soda Springs	

9. ESTIMATED CONSTRUCTION START DATE: Stand by Generator installed	ESTIMATED COMPLETION DATE: (installed)

10. NAME AND TITLE OF OWNER OR RESPONSIBLE OFFICIAL: Charles H. Ross, General Manager

11. In accordance with IDAPA 58.01.01.123 *(Rules for the Control of Air Pollution in Idaho)*, I Charles H. Ross, certify based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

SIGNATURE Charles H Ross DATE 12/20/02

The following information, at a minimum, must be included in the application package in order for the application to be determined complete:

- *A scaled plot plan clearly showing property boundaries and stack and building locations;*
- *All calculations and assumptions used to estimate emissions;*
- *Manufacturer's guarantees for stated control efficiencies of all control equipment;*
- *A description of potential fugitive emissions;*
- *A narrative description of the facility and the process from feed material in to final product out;*
- *A process flow diagram; and*
- *Any other information required by the DEQ to determine the application complete.*

STATE OF IDAHO
APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

SECTION 2: FUEL-BURNING EQUIPMENT *(complete a separate page for each unit)*

1. APPLICANT'S REFERENCE NUMBER: 5001 Standby Generator

2. EQUIPMENT MANUFACTURER AND MODEL NUMBER	3. RATED HEAT INPUT CAPACITY	4. BURNER UNIT TYPE (use code)	5. HEAT USAGE % process	% space heating
CaterpillAR 300	375 hp			

6. FUEL DATA

	Primary	Secondary
fuel type (use code)	2	
percent sulfur	<0.59%	by wt.
percent ash		
percent nitrogen		
percent carbon		
percent hydrogen		
percent moisture		
heat content		

(percent by weight or volume)

7. FUEL CONSUMPTION

	Primary	Secondary
Maximum amount burned/hour		
Normal amount burned/year		

Fly ash reinjection? ___ yes ___ no ___ n.a.

8. OPERATING SCHEDULE

Average hours/month 246
Hours per day ____
Days per week ____
Weeks per year ____

9. POLLUTION CONTROL EQUIPMENT None

	Primary	Secondary
type		
manufacturer		
model number		
% efficiency		

MANUFACTURER GUARANTEED _____ yes _____ no
(Include guarantee)
for wet scrubbers:
water flow _____ gpm
pressure drop _____ inches of water

for baghouse:
air/cloth ratio _____
pressure drop _____ inches of water

10. STACK OR EXHAUST DATA

Stack ID _____
Height 10 ft
Exit diameter 0.67 ft
Exit gas volume _____ acfm
Exit gas temperature _____ F

(Include a separate page for each stack if multiple stacks or vents are used)
are used)

11. CRITERIA POLLUTANT ESTIMATED EMISSIONS

	typical		PTE		typical		PTE	
Particulates	1.6	lb/hr	7	tons/yr				
Sulfur dioxide	0.8	lb/hr	3	tons/yr				
Carbon monoxide	2.5	lb/hr	11	tons/yr				
Nitrogen oxides	11.6	lb/hr	51	tons/yr				
Volatile organic compounds	0.9	lb/hr	4	tons/yr				

(Include calculations and assumptions)

FUEL CODES
1. Natural gas
2. Oil *(specify ASTM grade number)*
3. Wood *(specify chips, bark, shavings sander dust*
4. Coal *(specify bituminous, anthracite, lignite)*
5. Other *(specify)*

BURNER CODES
1. Spreader stoker
2. Chain or traveling grate
3. Hand fired
4. Cyclone furnace
5. Wet bottom *(pulverized coal)*
6. Dry bottom *(pulverized coal)*
7. Underfeed stoker
8. Tangentially fired
9. Horizontally fired
10. Other *(specify)*

STATE OF IDAHO
APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

Does not apply

SECTION 3: PROCESS AND MANUFACTURING EQUIPMENT *(complete a separate page for each distinct process or manufacturing operation)*

1. APPLICANT'S REFERENCE NUMBER	2. PROCESS OR OPERATION NAME

3. MAXIMUM RATED INPUT CAPACITY *(tons/hour)**	4. NORMAL MAXIMUM FEED INPUT tons/hour	tons/year	5. NORMAL MAXIMUM PRODUCT OUTPUT tons/hour	tons/year

6. PROCESS EQUIPMENT

Type _____
Manufacturer _____
Model Number _____
Feed Material _____

7. OPERATING SCHEDULE

Hours per day _____
Days per week _____
Weeks per year _____

8. STACK OR EXHAUST DATA

Stack ID _____
Height _____ ft
Exit diameter _____ ft
Exit gas volume _____ acfm
Exit gas temperature _____ F

(Include a separate page for each stack if multiple stacks or vents are used)

10. POLLUTION CONTROL EQUIPMENT

	Primary	Secondary
Type		
Manufacturer		
Model Number		
% Efficiency		

MANUFACTURER GUARANTEED ____ Yes ____ no
(Include guarantee)

For wet scrubbers:
water flow _____ gpm
pressure drop _____ inches of water

For baghouses:
air/cloth ratio _____
pressure drop _____ inches of water

11. CRITERIA POLLUTANT ESTIMATED EMISSIONS

particulates	lb/hr	tons/yr
sulfur dioxide	lb/hr	tons/yr
carbon monoxide	lb/hr	tons/yr
nitrogen oxides	lb/hr	tons/yr
volatile organic compounds	lb/hr	tons/yr

(Include calculations and assumptions)

9. TOXIC AIR POLLUTANT ESTIMATED EMISSIONS

(Include calculations and assumptions)

Pollutant	Uncontrolled Emissions lb/hr	tons/yr	Controlled Emissions lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr
	lb/hr	tons/yr	lb/hr	tons/yr

**If units other than tons, please specify.*

Nu- West Industries, Inc.,

Unit #5001, Standby Generator

Emission Calculations

Operations

		Operations		
	Engine Size	Actual	Max	Max [b]
	(hp)	(hrs/yr) [a]	(hrs/day)	(hrs/yr)
Diesel Engine	375	2,952	24	8,760

(a) The generator is normally operated for about 246 hours per month.

b) For Potential to Emit calculations

Emission Factors Critera Pollutants [a]

	PM [b]	PM_{10}	NOx	CO	SO_2	TOC
Fuel	(lbs/hp-hr)	(lbs/hp-hr)	(lbs/hp-hr)	(lbs/hp-hr)	(lbs/hp-hr)	(lbs/hp-hr)
Diesel	0.0044	0.0022	0.031	0.00668	0.00205	0.00251

(a) AP-42 Section 3.3, Table 3.3-1. (10/96) except for PM

(b) Conservatively assumes PM_{10} is half of PM

Calculated Emissions

	PM [b]	PM_{10}	NOx	CO	SO_2	TOC
Lb/hr		0.8	11.6	2.5	0.8	0.9
Actual tpy		1.2	17.2	3.7	1.1	1.4
Potential tpy		3.6	50.9	11.0	3.4	4.1

eh: 12/17/02

MFG, Inc.
19203 36th Avenue W., Suite 101
Lynnwood, WA 98036-5707
425/ 921-4000
Fax: 921-4040

consulting
scientists and
engineers

Route: ✓ Nik S.
— Air. Src File
029-00031

December 31, 2002

Mr. Dan Salgado / Nik
Idaho Department of Environmental Quality
1410 N. Hilton
Boise, ID 83706

Re: Rasmussen Ridge Mine

Dear Mr. Salgado:

In a letter dated December 20, 2002, I submitted Permit To Construct forms on behalf of Nu-West Industries, Inc. (Nu-West) for an auxiliary generator at Nu-West's Rasmussen Ridge Mine. That application included a photocopied signature page. Enclosed is the original.

Please feel free to call me, or Rob Squires at Nu-West (208) 574-2420, if you have any questions or require any additional information. Thank you for your assistance.

Sincerely,
MFG, Inc.

Eric Hansen
Senior Consultant

Rob Squires – Nu-West Industries, Inc.

STATE OF IDAHO
DEPARTMENT OF ENVIRONMENTAL QUALITY

APPLICATION TO CONSTRUCT AN AIR POLLUTION EMITTING FACILITY

(IDAPA 58.01.01.200-.225)

SECTION 1: GENERAL INFORMATION

1. COMPANY AND DIVISION NAME: Nu-West Industries, Inc			
2. MAILING ADDRESS: 3010 Conda Road		COUNTY: Caribou	NUMBER OF FULL-TIME EMPLOYEES: 115
3. CITY: Soda Springs	STATE: ID	ZIP CODE: 83276	TELEPHONE NUMBER: (208) 547 4381
4. PERSON TO CONTACT: Rob Squires		TITLE: Environmental/Safety Coordinator	
5. EXACT PLANT LOCATION *(IDENTIFY LOCALITY, AND INCLUDE UTM COORDINATES IF KNOWN)*: SE 2/4, NE 1/4 Section 26, T6S, R43E			
6. GENERAL NATURE OF BUSINESS AND KINDS OF PRODUCTS: Phosphate Mine			

7. REASON FOR APPLICATION

- ☐ permit to construct a new facility
- ☒ permit to modify an existing source
  permit number 02900031
- ☐ permit to construct a new source at an existing facility
- ☒ change of owner or location
  permit number 02900031
  current owner Rhone-Poulenc

8. LIST ALL FACILITIES WITHIN THE STATE THAT ARE UNDER YOUR CONTROL OR UNDER COMMON CONTROL AND HAVE EMISSIONS TO THE AIR. IF NONE, SO STATE.

NAME	LOCATION
Agrium (Nu-West Industries) Conda Phosphate Operations in Soda Springs	

9. ESTIMATED CONSTRUCTION START DATE: Stand by Generator installed	ESTIMATED COMPLETION DATE: (installed)
10. NAME AND TITLE OF OWNER OR RESPONSIBLE OFFICIAL: Charles H. Ross, General Manager	

11. In accordance with IDAPA 58.01.01.123 (*Rules for the Control of Air Pollution in Idaho*), I Charles H. Ross, certify based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

SIGNATURE Charles H Ross DATE 12/20/02

The following information, at a minimum, must be included in the application package in order for the application to be determined complete:

- *A scaled plot plan clearly showing property boundaries and stack and building locations;*
- *All calculations and assumptions used to estimate emissions;*
- *Manufacturer's guarantees for stated control efficiencies of all control equipment;*
- *A description of potential fugitive emissions;*
- *A narrative description of the facility and the process from feed material in to final product out;*
- *A process flow diagram; and*
- *Any other information required by the DEQ to determine the application complete.*

Source File
Nu-West Rasmussen
Ridge Mine
AIRS # 029-00031

From: KENNETH HANNA
To: eric.hansen@mfgenv.com
Date: Wed, Mar 26, 2003 6:33 PM
Subject: Nu-West Ind. Rasmussen Mine items

Eric, in the interest of saving time, pls take a look at the attached topics list for this Permit To Construct, & if you woulds, forward this msg to Rob Squires at Nu-West (I don't have Rob's e-mail address).

If it works out, pls contact me by phone or e-mail tomorrow (Thursday) since I'll be out Friday & maybe Monday. I think these are all fairly minor issues that can be easily resolved. Also attached is some DEQ draft guidance that may be helpful regarding exemptions.

Thanks, Ken.

CC: MARY ANDERSON

March 26, 2003

From: Ken Hanna, DEQ
Subject: Topics for Discussion for Nu-West Industries Rasmussen Ridge Mine PTC

- Need to discuss/resolve the following issues (prior to the 4/14/03 PTC completeness deadline if possible).

- Confirm that the PTC should allow only one of the units to operate at a time (i.e. no simultaneous operation).

- The existing 2/5/95 PTC indicates the shop/office generator is 483 horsepower, and the PTC application indicates this unit is 810 horsepower. If this change is the case, then additional information needs to be submitted for the PTC modification application to address this change (e.g., emission estimates and modeling). The PTC may then be modified accordingly with minimal effort.

- Modeling may need to be provided for the standby generator (#5001, CAT 300, 375 hp) to show NAAQS compliance. Pls contact Mary Anderson, DEQ Modeling Coordinator, to make this determination at 208-373-0202, manderso@deq.state.id.us. If the model exceeds the significant impact level, then other sources may also need to be addressed per the modeling policy.

- Discuss/determine which model is appropriate for this project (SCREEN 3, ISC3, etc.). Again, pls contact Mary.

- On page 2 of 3 of the standard PTC application form, item #6, the fuel sulfur content is shown as 0.59%. This appears to be high; is this a typo? Also in #6, the fuel code is "2" which stands for "oil." The ASTM grade number of the fuel also needs to be provided (i.e., No.1 and/or #2).

- Applicability of NSPS, Part 60, Subpart OOO regarding equipment at the Rasmussen Mine is not clear (see 60.670). Additional information is requested which provides a clear determination.

- Note that exemption documentation is required for each of the small engines claimed to be exempt. This does not need to be provided as part of this permitting action. However, the documentation must be maintained & readily available upon request by the Department per IDAPA 58.01.01.220.02. Dan Salgado emphasized the following: If more than one "exempt" unit was put in service at the same time then that group of units would constitute a "single project," and one of the following applies: 1) a single exemption needs to be documented which addresses this "group" of units, or; 2) if the "group" of units does not meet exemption requirements, then the PTC needs to be modified to address each of these units.

- If Option 2 applies, it is Nu-West may want to request that this be done now as part of the current PTC modification request (to avoid additional fees for another mod later). To proceed with this action, all necessary PTC application material would need to be submitted for those units.

- Note that emissions estimates & modeling specified in 220.01 are required for each exemption documented under 222.01.

Source file ✓

Nu-West Industries Rasmussen Ridge Mine PTC Response to issues raised by Ken Hanna on March 27, 2003

This information supplements the PTC application. KH.

1) Confirm that the PTC should allow only one of the units to operate at a time (i.e. no simultaneous operation).
The standby generator and the primary generator will not be operated simultaneously at any time.

2) The existing 2/5/95 PTC indicates the shop/office generator is 483 horsepower (hp), and the PTC application indicates this unit is 810 hp.
The correct horsepower rating for the primary generator is 483 hp.

3) Modeling may need to be provided for the standby generator (#5001, CAT 300, 375 hp) to show NAAQS compliance.
We understand that Mary Anderson (DEQ Modeling Coordinator) has determined that modeling of the standby generator would not be necessary if the standby generator is smaller than the existing permitted primary generator and the two units are collocated. Both of these requirements are met – the standby is smaller than the primary generator and the generators are located in the same small building. This building is located approximately 600 feet from the nearest property lease line.

4) Discuss / determine which model is appropriate for this project.
Modeling is not required for the PTC. Please see Item 3 above.

5) On page 2 of 3 of the standard PTC application form, item #6, the fuel sulfur content is 0.59%. Also in #6, the fuel code is "2" which stands for "oil". The ASTM grade number of the fuel also needs to be provided (i.e., No. 1 and / or 2).

Although most of the fuel oil delivered to the mine is consumed by the heavy duty mobile equipment and trucks that operate at the mine, all the "diesel" engines (i.e., including light plants, generators, etc.) consume the same fuel. The fuel oil supplier certifies the sulfur content of this oil to be less than 0.59 percent sulfur. Generically, this is referred to as No.2 diesel. In cold weather, Agrium sometimes burns No.1 diesel in its equipment (this has a lower sulfur content).

The 1995 PTC for the primary generator notes in the source description that the fuel consumed is No.2 diesel, but there are no permit conditions limiting the generator to No.2 distillate as defined in IDAPA 58.01.01.726 (i.e., 0.5% sulfur). Because it would be costly to maintain multiple fuel tanks for different engines and because there is no existing requirement to use a distillate fuel with a sulfur content of 0.5% or less, Agrium proposes to continue to use the same fuel that is used today.

Based on our telephone discussion yesterday, I believe you agreed that the use of such oil is acceptable. If that is not correct or you need anything further on this issue, please contact me or Rob Squires at Nu-West immediately.

6) Applicability of NSPS, Part 60, Subpart OOO regarding equipment at the Rasmussen Mine is not clear (see 60.670). Additional information is requested which provides a clear determination.

In my site inspection of the Rasmussen Mine in December 2002, I noted the following sources of air emissions:

- The permitted diesel-fueled generator, an adjacent backup diesel-fueled generator, and a number of smaller portable diesel-fueled generators,
- Mobile equipment engaged in mining and hauling ore from the mining area to a railcar loadout,
- An ore hopper, underground grizzly screen, conveyors, and railcar loading hopper.

Subpart OOO governs nonmetallic mineral processing plants, and defines them as "any combination of equipment that is used to crush or grind any nonmetallic mineral wherever located, including lime plants, power plants, steel mills, asphalt concrete plants, portland cement plants, or any other facility processing nonmetallic minerals except as provided in 60.670 (b) and (c)."

The Rasmussen Ridge Mine is a phosphate ore surface mine that does not contain any crushing, grinding, or processing operations. Ore from the mine is transported to, and processed at, the Conda Phosphate Operations plant north of Soda Springs, Idaho. Therefore, the Rasmussen Ridge Mine does not meet the definition of a nonmetallic mineral processing plant and NSPS Subpart OOO does not apply.

From: KENNETH HANNA
To: "ehansen@whidbey.com".INTERNET.DEQ; "rsquires@agrium.com".INTERNET.DEQ
Subject: Re: Information Request

Thanks for your speedy response. Nothing more is needed at this time. With this info I should be able to finish the permit. My goal for this pmt is that no stone was left unturned & everything for the entire facility is covered. To that regard, thanks for your patience & response to my questions. I'll get a completeness letter issued early next week.
Ken.

>>> "Eric Hansen" <ehansen@whidbey.com> 04/04/03 12:22PM >>>
Ken,

Attached is a response to the issues you raised last week. Please let me know if there is anything else you need.

CC: "eric.hansen@mfgenv.com".INTERNET.DEQ; RICHARD ELKINS; THOMAS EDWARDS

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

April 10, 2003

Certified Mail No. 7099 3220 0009 1975 6414

Mr. Eric Hansen, Senior Consultant
MFG, Inc.
19203 36th Avenue W., Suite 101
Lynnwood, WA 98036-5707

RE: AIRS Facility No. 029-00031, Nu-West Industries, Inc., Rasmussen Ridge Mine
Completeness Determination of PTC Application

Dear Mr. Hansen:

On December 23, 2002, the Department of Environmental Quality (the Department) received your Permit to Construct application for the Nu-West Industries, Inc. Rasmussen Ridge Mine located north east of Soda Springs. On April 4, 2003 additional information was received. The application materials have been reviewed, and it has been determined that the application is complete. Therefore, the Department will proceed with the processing of this permit application in accordance with IDAPA 58.01.01.200 (*Rules for the Control of Air Pollution in Idaho*)(*Rules*).

Although the application has been declared complete, it may be necessary to solicit further information to assist us during our review. The permit evaluation phase may take up to 60 days, although the application will be processed as expeditiously as our resources allow. Please be aware that you may submit a written request for the Department to provide a draft permit for review prior to issuance of a final permit in accordance with IDAPA 58.01.01.209.01.b.i *Rules*. Additionally, an opportunity for a public comment period will be provided in accordance with IDAPA 58.01.01.209.01.c *Rules*. Should a comment period be required, at least 45 days will be added to the time needed to process your application.

If you have any questions about this project, or about the permitting process, please contact me at (208) 373-0283.

Sincerely,

Ken Hanna, Permit Writer
Air Quality Division

KH\sd

Permit No. P-020327

Source File
Agrium / Nu-West
General Correspondence

From: "Rob Squires" <RSquires@agrium.com>
To: <KHANNA@deq.state.id.us>
Date: 6/2/03 2:53PM
Subject: Re: PTC for Rasmussen Ridge Mine

Kenneth
I would like to see the draft PTC before it goes out to the public. If you need a more formal request, please let me know.

Thanks
Rob

>>> "KENNETH HANNA" <KHANNA@DEQ.STATE.ID.US> 05/30/03 10:48AM >>>
Rob, I'm revising the permit to construct at this time. It will be written in the latest PTC format, so it won't "look" the same as the last permit. Also, I'll be addressing all areas of the facility, including fugitive dust sources, in this new PTC, not just the 2 generators. There shouldn't be any surprises, but it will definitely look different. It's scheduled to be issued by 6/10/03. If you want to
review the draft permit before it's issued, you need to send in some form of written request (see IDAPA 58.01.01.209.01.b.i.). Any written form including e-mail, fax or letter will do.

One other issue. It hasn't been determined if a 30-day comment period will be held yet. 1 Request has been recieved thus far, including questions if the permit would address the entire facility or just the generators. As you know, I already planned to address the entire facility (i.e., add conditions to address fugitive dust) as part of this
revision.

Any questions, pls let me know.
Ken Hanna 208-373-0283

From: "Rob Squires" <RSquires@agrium.com>
To: <KHANNA@DEQ.STATE.ID.US>
Date: 7/22/03 10:11AM
Subject: Dust Permit

Ken
Attached is Agrium's fugitive dust plan for the Rasmusen Ridge Mine. I hope this will help in getting the air permit finished up. Call if I can help or if you have more information.

Thanks
Rob

7/22/03

Fugitive Dust Control Plan
Rasmussen Ridge Mining Project

The purpose of this document is to provide a plan for control of fugitive particulate emissions released as a result of mining and associated activities at the Rasmussen Ridge Phosphate mine. Fugitive dust is an unavoidable element in all surface mining operations. However, fugitive dust impacts are generally confined to the mining area itself and the area immediately surrounding the mine. The goal of any fugitive dust control plan is to identify the sources of dust and the steps taken to minimize the amount of dust formed and to mitigate impacts to the surrounding area. The plan can also be used as vehicle for management of dust mitigation efforts.

Facility Description

The Rasmussen Ridge mining operation is a phosphate ore production operation. The product of the operation is uncrushed phosphate ore. The basic mining operation utilizes surface strip mining practices. First the ground is prepared by the removal of vegetation and topsoil. This process will be done with dozers, trucks and front-end loaders. The topsoil is stockpiled for later use in reclamation. The next major step is the removal of overburden (the rock overlying the ore). Holes are drilled in the overburden and then loaded with explosives and detonated. The fractured rock is then removed by large diesel-powered shovels and placed in open bed haul trucks. The trucks haul the overburden to previously mined-out pits as the first step in the reclamation process of the land. Overburden continues to be removed until the ore is exposed. In the Rasmussen Ridge mine there are two major seams of ore, which also results in a large volume of overburden between these two seams.

The ore is removed without blasting using the same basic techniques as the overburden. But instead of being hauled to previously mined-out areas, the ore is hauled a much longer distance (approximately 8 miles) to a load-out facility, generally called a "tipple." The ore is stockpiled in a variety of piles depending on impurities in the ore. The stockpiling process is accomplished by dumping directly from the back of the truck in lifts and then smoothing and leveling with a dozer. Ore is reclaimed from these piles with a front-end loader and placed in a simple screening system that removes only the largest size material. No crushing is performed at the load-out facility. The ore is transferred via conveyor into railcars and from there is transported out of the area.

The mined-out pits are filled with overburden (waste rock) and then contoured using dozers. Topsoil is replaced over the surface of the re-contoured land and planted with native vegetation.

Emission Sources

There are many sources of fugitive dust at any mining operation. The following is a list of the sources of dust at the Rasmussen Ridge mine.

1. Ground Preparation. The removal of vegetation and topsoil from the area ahead of the mining operation can be a source of dust caused by the movement of the dozers, trucks and front-end loaders on the unpaved surfaces. The excavating and dumping of soil is also a source of dust.

2. Drilling. Drilling is a minor source of dust.

3. Blasting. Blasting is a very short-term, temporary but dramatic source of dust. The Rasmussen Ridge facility blasts approximately 2 times per week. Only the overburden is fractured with blasting. The ore material can be mined without fracturing.

4. Overburden and Ore Removal. The action of the shovel working in either the fractured overburden or the ore itself is one of the major sources of dust at the mine. The use of a shovel generally produces less dust than a front-end loader because the shovel stays mostly stationary when loading the trucks while a front-end loader must constantly move its tires over the surface to accomplish the same thing. A small quantity of dust is produced as the shovel removes the material from the embankment. The majority of the dust from this operation occurs as the shovel drops its load into the open truck bed. The falling overburden or ore produces dust as it is dropped into the truck bed.

5. Haul Truck Travel on Unpaved Surfaces. Usually the most significant source of dust at a mining operation is the truck traffic moving overburden and ore from point to point. These 90-ton haul trucks have large tires that remove loose material from the unpaved surface and cast it into the air as the trucks travel. Even smaller vehicles, including supervisor trucks, maintenance vehicles and support vehicles can contribute to the dust emissions from unpaved surfaces.

6. Road Construction and Road Maintenance. Since the open pit continuously moves, road construction is a continuous process at the mining operation. Road construction is performed by dozers and graders and can be a source of dust from the movement of these heavy-duty vehicles on the unpaved surface. Even after a road is constructed, it must be regularly graded to maintain the surface. The activity of motor graders on unpaved roads is a minor source of dust.

7. Dumping. Overburden and ore are dumped from the back end of the large haul trucks. As the material slides out of the truck and onto the ground, some dust is produced.

8. Reclaim from Piles. The ore is reclaimed from the stockpiles by front-end loaders. The action of the loader tires on the unpaved surface is a source of dust similar to the haul trucks on unpaved roads. In addition, the front end loader produces some dust as it scoops the material from the stockpile and dumps it into the hopper that feeds the conveyor and screening system

9. Screening. The screening operation can also be a source of dust although the screening in this case is a minor operation, since only the largest material is being removed.

10. Conveyors. The conveyor belts themselves can be sources of dust. The movement of the loose material through the air is a minor source of dust. Transfer points, where the material is transferred from one conveyor to another can also be a minor sources of dust.

11. Train Loading. The loading of railcars can be a minor source of dust. As the material is dumped from the end of the conveyor into the open top railcar, some dust can be formed.

12. Wind Erosion. Any surface mining operation involves a large area that is exposed to air. Under moderate to high wind conditions, the wind itself can cause dust particles to become air borne. Areas that are susceptible to wind erosion include virtually the entire disturbed area of the mine.

Dust Control Activities

The following is a list of the control activities that are in place and are actively taken by the mine operator to limit the formation and dispersion of fugitive dust from the sources listed above.

1. Watering. The most common method to control dust is the application of water on the dusty area. Water is used extensively at the Rasmussen Ridge mining operation to control dust. Water is applied predominantly on the areas where the vehicles move, including the mining areas, the haul roads and the loadout area. Water is used elsewhere as needed if a dust problem is observed. Fortunately, the inherent moisture content of the ore material itself is high (10%-11%), so there is less tendency for the ore to produce dust. Two water trucks are employed at the mining facility and are continuously in use during the dry season.

2. Dust Abatement on Haul Roads. In addition to watering, magnesium chloride is applied to the overland haul road from the mine to the tipple. Magnesium chloride is very hygroscopic. Its main function is to retain water in the surface materials of the haul road. It will actually draw moisture from the air into the road as well. Magnesium chloride is one of the most common dust suppressants used in the mining industry and is very effective.

3. Drill Rig Water Sprays. The drill rigs in use at the Rasmussen Ridge mine are equipped with water sprays systems to reduce the dust formed during the drilling process.

4. Blasting Controls. There are two methods used to control emissions from blasting. First, the mine actively minimizes the amount of explosives used. Unlike some large coal mines where the interest is in actually moving some of the overburden in the blasting operating (called "direct casting"), there is no casting of overburden done at the Rasmussen Ridge Mine. Blasting is used to the minimum extent to fracture the overburden sufficient for removal. The second control method is to stem the drill holes after explosives are added. Drill cuttings are placed back into the drill holes after the explosives are added to prevent loss of energy out through the top of drill hole itself. This practice also reduces the quantity of dust that is cast in the air during the blasting event.

5. Good Mining Practices. There are a number of minor activities that are performed at the Rasmussen Ridge Mine that all contribute to the reduction of dust. For example drop heights at truck loading points and front-end loader dump points are minimized. The quantity of emissions is directly related to the height of the dump, so to the degree possible, drop heights are minimized to reduce dust. Employees are educated on the importance of minimizing dust formation.

Management

The Rasmussen Ridge Management is committed to being a good neighbor and minimizing dust impacts to the surrounding community. Supervisors are constantly watching for dust problems and alert water trucks to areas needing special attention. If dust problems are identified, the management teams works to find a solution and prevent the facility from causing an unavoidable impact to the surrounding neighbors.

Air Quality Permitting Analysis

Permit to Construct No. P-020327

Nu-West Industries, Rasmussen Ridge Mine

AIRS Facility No. 029-00031

Prepared by:

Ken Hanna, Permit Writer
AIR QUALITY DIVISION

August 4, 2003

FACILITY DRAFT PERMIT

1. PURPOSE

The purpose for this memorandum is to document revisions made to Permit to Construct (PTC) No. 029-00031, dated February 5, 1995, issued to Rhone-Poulenc Basic Chemicals Company for the Rasmussen Ridge mine. This memorandum specifically documents changes to the PTC, but does not otherwise address the permit. For information regarding the technical basis for the original PTC, refer to the technical memorandum dated February 5, 1995.

2. PROJECT DESCRIPTION

On December 23, 2002, the Department received an application from MFG, Inc. on behalf of Nu-West Industries, Inc. (Nu-West) to modify the PTC. The application requests a permittee name change and to add the Standby Generator to the PTC (in lieu of operating under exempt status). On April 10, 2003, the application was declared complete, and on May 22, 2003 and July 4, 2003, additional information was received from the Idaho Conservation League with regard to a Draft Environmental Impact Statement for the proposed North Rasmussen Ridge Mine. On June 2, 2003, Nu-West requested a draft permit prior to issuance, and on July 22, 2003, Nu-West provided a Fugitive Dust Control Plan for the Rasmussen Ridge Mining Project, as a supplement to the application, to address fugitive dust emissions.

3. FACILITY DESCRIPTION

A facility is defined by IDAPA 58.01.01.006.37 as all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one (1) or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same Major Group (i.e. which have the same two-digit code) as described in the Standard Industrial Classification (SIC) Manual.

For permitting purposes, the Rasmussen Ridge Mine is the "facility", and each separate mining area (i.e., the South, Central and North Rasmussen Ridge mine areas, and the load-out area) is considered to be a separate activity at that facility. In addition, the Nu-West Rasmussen Ridge Mine is a separate facility from the Nu-West manufacturing facility located near Soda Springs facility; these two do not constitute one facility. This is because the two are not part of the same industrial grouping (i.e., the mine SIC is 1475 and the manufacturing facility SIC is 2874). In addition, these two do not "... approximate the common sense notion of a plant..." as outlined in Section IX of the preamble to the NSR rules (45 FR 52693, August 7, 1980).

4. TECHNICAL ANALYSIS

Emission Estimates

Refer to the attached Engineering Memorandum in Appendix A.

Facility Classification

The Rasmussen Ridge Mine, (i.e., the "facility" as defined above) is not a major facility in accordance with the definition given by IDAPA 58.01.01.006.55 since fugitive dust emissions may not be included in this major source determination. Note that 40 CFR Part 60 Subpart NN became a final rule on April 16, 1982. Since this facility does not belong to a stationary source category which, as of August 7, 1980, is being regulated under Sections 111 or 112 of the Clean Air Act, then fugitive emissions are not included in determining whether it is a major facility.

5. REGULATORY REVIEW

This permit to construct is subject to the following permitting requirements:

IDAPA 58.01.01.201 ..... Permit to Construct Required

No owner or operator may commence construction or modification of any stationary source or facility without first obtaining a permit to construct from the Department which satisfies the requirements of Sections 200 through 228 unless the source is exempted in any of Sections 220 through 223. In this case, a change in the operations for the Standby Generator (i.e., increased hours of operation) and construction of the proposed North Rasmussen Ridge mining area would be modifications of an existing facility (i.e., the permitted Rasmussen Ridge Mine). Therefore, the permit to construct requirements apply in this case.

IDAPA 58.01.01.203 ..... Permit Requirements for New and Modified Stationary Sources - NAAQS

For the proposed change in operation of the facility's generators, the estimated amount of CO and VOC would increase. In this case, since the estimated changes were small it was not necessary to revise the existing SCREEN modeling to demonstrate NAAQS compliance (See Section 6.2 below). For the proposed North Rasmussen Ridge Mine operations, overall facility operations which generate fugitive dust emissions would remain similar to past operations. Therefore, to control fugitive dust emissions the modified PTC will emphasize the use of good operational practices and reasonable precautions to prevent and minimize the formation of fugitive dust. This will be accomplished by including operating conditions in the PTC which require the development and implementation of a site specific Fugitive Dust Control Plan. In addition, monitoring and recordkeeping requirements will be added to demonstrate the plan has been followed.

IDAPA 58.01.01.203 & 210..... Demonstration of Preconstruction Compliance with Toxic Standards

For the proposed facility modifications, an increase in the amount of toxic air pollutant emissions is not reasonably expected to occur. Generator emissions are expected to decrease since the larger Shop/Office Generator will operate less and, in it's place, the smaller Standby Generator will operate more.

40 CFR 52..... Prevention of Significant Deterioration

The PSD rules are not applicable to this source. In 1995, it was determined by the Department that the phosphate ore mining operation conducted at the Rasmussen Ridge Mine does not constitute a "Phosphate Rock Processing Plant," which is one of the 26 designated facilities within the PSD program.

40 CFR 60, Subpart NN..... New Source Performance Standards (NSPS) for Phosphate Rock Plants

40 CFR Part 60, Subpart NN does not apply to the Rasmussen Ridge Mine. Although the Rasmussen Ridge Mine meets the definition of a Phosphate Rock Plant, Subpart NN does not apply since the mine does not utilize any of the affected facilities listed in 60.400(a)(2). Details are provided as follows:

- As given by 60.400(a)(2), the provisions of this subpart apply to the following affected facilities used in phosphate rock plants which have a maximum plant production capacity greater than 4 tons/hr: dryers, calciners, grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production. Note that the Rasmussen Ridge Mine does not utilize any of the affected facilities listed above.

- As defined by 60.401(a), a Phosphate Rock Plant is any plant which produces or prepares phosphate rock product by any or all of the following processes: mining, beneficiation, crushing, screening, cleaning, drying, calcining, and grinding. The Rasmussen Ridge Mine meets the

definition of a Phosphate Rock Plant since it produces/prepares phosphate rock by mining and screening.

40 CFR 60, Subpart OOO..... NSPS for Nonmetallic Mineral Processing Plants

The provisions of this subpart, as given by 60.670(a)(2), do not apply to facilities located in underground mines and stand-alone screening operations at plants without crushers or grinding mills. Therefore, this subpart does not apply to the Rasmussen Ridge Mine.

40 CFR 61 and 63..... National Emission Standards for Hazardous Air Pollutants & MACT

The NESHAPs requirements are not applicable to this facility.

6. PERMIT REQUIREMENTS

Permit to Construct Scope

6.1 This new section was added to the permit for consistency with the current format for permits. This section provides a description of the sources and activities at the facility which are addressed by the permit. The description information provided reflects the information provided by the applicant and it is the basis upon which the permit was written. The information provided in Section 1 of the PTC is provided "for information purposes only" and does not represent enforceable permit terms or conditions. Note that the horsepower of the Shop/Office Generator was changed from 483 to 810 in Section 1 of the PTC to reflect the actual size of the unit. Note that the emission estimates and modeling in the February 5, 1995 Technical Memorandum are not affected by this change.

Stationary Combustion Units

6.2 **Emissions Limits, #5004 Shop/Office Generator and #5001 Standby Generator**

In section 2 of the permit, short term emission limits (i.e., lb/hr) were added for the #5001 Standby Generator. In addition, the total annual generator emissions limit for CO was raised from 2.1 to 8.8 T/yr, and the total annual generator emissions limit for VOC was raised from 0.57 to 3.3 T/yr. The reason for the change is because the CO and VOC emission estimates provided for the Standby Generator, at 7000 hr/yr, are higher than for the Shop/Office Generator, and this difference is because different emission factors were used to estimate emissions for the 2 generators. The emissions estimates for the Standby Generator are higher (even thought the hp is less) since they are based on emission factors from AP-42, Section 3.3 (October 1996), whereas the estimates for the Shop/Office Generator are based on specific emissions data provided for a 3412 CAT engine, as included in the permit application and Appendix A of the Department's 2/5/95 Permit Technical Memorandum. The 7000 hr/yr limit was requested by Nu-West to limit the emissions increase to less than 10 tons per year which resulted in a reduced PTC processing fee. See Appendix B for details. Because the emission limit increases for CO and VOC are small, it was not necessary to revise the modeled estimates to show compliance with the NAAQS. For example, the 2/5/95 modeled 8-hr impact for CO was 6.2 $\mu g/m^3$ based on an emission rate of 0.48 lb/hr, which was well below the corresponding NAAQS of 10,000 $\mu g/m^3$. Compliance with the NAAQS is still demonstrated based on the modeling previously conducted for this activity.

6.2.1 **Compliance Demonstration**

For purposes of maintaining compliance with the NAAQS as a result of generator operations, a permit condition was added which allows only one generator to be operated at a time. This was done since modeling has not been conducted to demonstrate NAAQS compliance when both power generators operate simultaneously (i.e., the Shop/Office and the Standby Generators).

For purposes of limiting the Standby Generator emission increase to less than 10 T/yr, permit conditions to limit the hours of operation to not more than 7000 hr/yr and to monitor and record the monthly hours of operation were added. Compliance with the PTC emission limits may be determined by using the Department's emission estimation methods used in the permit analyses. For the Shop/Office Generator, the emission estimation methods and emission factors may be found in the Department's 2/5/95 Permit Technical Memorandum, and for the Standby Generator they may be found in Appendix A of this document.

6.3 Fuel Oil Sulfur Content

The fuel oil sulfur content rules given by IDAPA 58.01.01.728 apply to this facility, therefore, it was added to the permit. Note that the permit application indicates fuel with up to 0.59% sulfur may be used. The PTC does not preclude the use of this particular fuel, however, it is important for the facility to note that it must not be sold (bought), distributed or used "as ASTM Grade 1 or 2 fuel oil" in accordance with IDAPA 58.01.01.728.

Mining and Loading Operations

6.4 Reasonable Control of Fugitive Emissions – Dust Control Plan

For purposes of complying with the NAAQS and IDAPA 58.01.01.651, emphasis was placed on the development of good operational practices and reasonable precautions for limiting the formation and dispersion of fugitive dust from the facility. This was accomplished by adding a permit condition which requires the development and implementation of a site specific Fugitive Dust Control Plan for the entire facility. Specific minimum requirements for the plan were specified in the permit condition to ensure that all critical activities which generate fugitive dust will be adequately covered by the plan.

6.4.1 Compliance Demonstration

To demonstrate compliance with the Fugitive Dust Control Plan requirements, monitoring and recordkeeping conditions were added to the permit. This includes requirements for conducting weekly facility-wide inspections of potential sources of fugitive emissions, and monitoring/recording the frequency and methods used to reasonably control fugitive dust emissions. To emphasize the importance of compliance, these permit monitoring conditions were based on the more stringent requirements typically found in Tier I/Title V Operating Permits.

7. AIRS INFORMATION

No changes to the AIRS facility classification are necessary as a result of this change. However, the following #5001 Standby Generator needs to be added to AIRS as a new source as follows: the source/emissions unit name is "Diesel Fired Generator"; the SCC number is 20200401; and the air program is "SIP."

8. FEES

Nu-West paid the $1,000 application fee as required in IDAPA 58.01.01.224 on March 10, 2003. A permit to construct processing fee of $2500 will be required in accordance with IDAPA 58.01.01.225 because the increase in emissions from the modification was 9.4 T/yr as indicated in Table 8.1 (See Appendix B for details). The Rasmussen Ridge mining facility is not a major facility as defined in IDAPA 58.01.01.008.10., therefore, registration fees are not applicable in accordance with IDAPA 58.01.01.387.

Table 8.1 EMISSIONS INVENTORY

Emissions Inventory			
Pollutant	Annual Emissions Increase (T/yr)	Annual Emissions Reduction (T/yr)	Annual Emissions Change (T/yr)
NO_x	0.0	0	0.0
SO_2	0.0	0	0.0
CO	6.7	0	6.7
PM_{10}	0.0	0	0.0
VOC	2.7	0	2.7
TAPS/HAPS	0.0	0	0.0
Total:	9.4	0	9.4
Fee Due	$ 2500.00		

9. RECOMMENDATION

Based on review of application materials and all applicable state and federal rules and regulations, staff recommend that Nu-West Industries, Inc be issued a draft copy of modified PTC No. P-020327 for the Rasmussen Ridge Mine located near Soda Springs. A public comment period was requested and will be held following the draft permit review, and the project does not involve PSD requirements.

KLH/sd Permit No. P-020327

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Appendix A

Engineering Memorandum

Emission Estimate Calculations

Nu-West Industries, Rasmussen Ridge Mine

Engineering Memorandum

May 15, 2003

Nu-West Industries
Rasmussen Ridge Mine
Soda Springs

P-020237

Prepared by:

Darrin Mehr, Associate Air Quality Engineer
Division of Technical Services

Acronyms, Units, and Chemical Nomenclatures

CO	carbon monoxide
Department	Department of Environmental Quality
DEQ	Department of Environmental Quality
EPA	Environmental Protection Agency
fps	feet per second
ft	feet
HAPs	Hazardous Air Pollutants
hp	horsepower
IDAPA	A numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
K	Kelvin
lb/hr	pound per hour
NO_X	nitrogen oxides
O_3	ozone
Pb	lead
PM	Particulate Matter
PM_{10}	Particulate Matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
PTC	Permit to Construct
rpm	revolutions per minute
Rules	*Rules for the Control of Air Pollution in Idaho*
SO_2	sulfur dioxide
SO_x	sulfur oxides
TAPs	toxic air pollutants
TOC	Total Organic Compounds
T/yr	Tons per year
VOCs	Volatile Organic Compounds

PURPOSE

The purpose for this memorandum is to verify the validity of the emissions estimates from the PTC modification application.

PROJECT DESCRIPTION

Nu-West Industries (Nu-West) is proposing to modify the existing PTC to add a backup (standby) generator for the Rasmussen Ridge Mine. During periods when less electrical power is needed, this smaller backup generator, No. 5001, would operate instead of the primary generator, No. 5004. The No. 5001 backup generator burns diesel fuel. It is listed as a model 300 manufactured by Caterpillar.

TECHNICAL ANALYSIS

Process Description

The Rasmussen Ridge Mine is remotely located. The facility's operations require the use of generator sets to produce electrical power. The facility has two diesel-burning generators to produce primary electrical power for the facility. Generator No. 5004 is the primary producer of electrical power for shop and office areas. Generator No. 5001 is a standby generator that typically operates during periods when operations are not at full scale, typically during weekends. Generator set No. 0002 powers a well pump. Nine small generator sets to provide power to operate area lighting plants. Each of the area lighting plant generators ranges in size from 11 hp to 27 hp.

Equipment Listing

Existing generator and lighting equipment at the facility is listed in Tables 1 and 2.

Table 1: Light Plant Diesel Engines

Source Identification Number	Horsepower Rating (hp)
8652	11
8682	20
8692	27
8802	27
8812	27
8822	27
8872	27
0031	27
5003	27

Table 2: Electrical Generators

Source Identification Number	Horsepower Rating (hp)
0002 (well pump)	207
5001 (standby)	375
5004 (office and shop)	810

Emission Estimates

Only criteria emissions from standby generator No. 5001 were reviewed for this project. The Stationary Source Program Office has stated that HAPs and TAPs reviews are not necessary for this project—only criteria air pollutants. Emissions were estimated on several bases: potential hourly, actual annual based on past operations, and unrestricted potential annual. Emissions are listed below in Table 3, and physical parameter information is listed below in Table 4. See Attachment 1 to review the emissions estimate spreadsheet. Emission factors were obtained from AP-42.[1]

The AP-42 resource does not contain any emissions factors for lead emissions from burning No. 2 distillate fuel in internal combustion engines.

Table 3. Potential Emissions from Standby Generator No. 5001

Pollutant	PM	PM_{10}	NO_x	SO_2	CO	O_3/VOC	Pb	HAPs	TAPs
Potential Emission Rate (lb/hr)	1.65	0.83	11.63	0.77	2.51	0.94	NA	NA	NA
Actual Emission Rate (T/yr)	2.44	1.22	17.16	1.13	3.70	1.39	NA	NA	NA
Potential Emission Rate (T/yr)	7.23	3.61	50.92	3.37	10.97	4.13	NA	NA	NA

Table 4. Stack Parameters for Generator No. 5001

Emission Unit	Stack Height (ft)	Stack Diameter (ft)	Gas Velocity (fps)	Stack Temp. (K)
5001 Standby Generator	10	0.67	Not provided	Not provided

Source Testing

No source testing is recommended for this emissions unit.

No source test reports were reviewed and incorporated in the analysis for this permitting action.

Operating Parameters

Standby Generator No. 5001

Operational Factors

The load factor (or the ratio of the load applied to the generator engine to the generator engine's maximum rated load) is an operational parameter that could affect emission rates. Emissions rates are directly related to the

[1] Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, Volume I: *Stationary Point and Area Sources*, Section 3.3-Gasoline and Diesel Industrial Engines, United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, NC, USA, October 1996.

load factor of the engine. Engine rpm and fuel consumption are surrogate parameters for load factor. However, emissions estimates were conducted for full load operating conditions for this project. Actual hourly emissions are assumed to equal potential hourly emissions at full load operation.

This permitting analysis was performed for a worst-case operating scenario. There are no operating parameters that need to be monitored to comply with the potential emissions requested by Nu-West Industries. Operating hours may be tracked to quantify actual emissions on a daily, monthly, or other time basis, as desired.

The engines at the facility can operate on No.1 and No. 2 distillate fuels that meet the sulfur content limits of 0.3 weight % and 0.5 weight %, respectively. The engines can also operate on distillate fuel that contains 0.59% by weight of sulfur. One might believe that the engine's estimated SOx emissions would be dependent upon the sulfur content in the fuel. However, this is not the case, because the SOx emission factor listed in AP-42, Section 3.3, is not dependent upon the sulfur content of the fuel combusted. Emissions estimates for SOx are not affected by this factor because of the method of emission calculation.

DAM/bm P-020327

Attachment 1

DEQ Emissions Spreadsheet

Of Criteria Air Pollutants

Nu-West Industries
Rasmussen Ridge Mine, Soda Springs
P-020327

Generator Engine Emissions

Source:

Generator Engine # 5001

Purpose: Standby Generator

Fuel: Diesel

Operating Information

Rated Horsepower (hp)	Load Factor (dimensionless)	Daily Hours of Operation (hr/day)	Actual Annual Hours (hr/yr)	Potential Annual Hours (hr/yr)
375	1.0	24	2952	8760

Emission Factors: Criteria Air Pollutants for Diesel Combustion
Source: AP-42, Section 3.3, released 10/96

NOx (lb/hp - hr)	CO (lb/hp - hr)	SOx (lb/hp - hr)	PM-10 (lb/hp - hr)	PM (lb/hp - hr)	TOCs (or VOCs) (lb/hp - hr)
0.031	6.68E-03	2.05E-03	0.0022	0.0044	2.51E-03

Criteria Air Pollutant Emissions Rates

Time Period/Case		NOx	CO	SOx	PM-10	PM	TOCs (or VOCs)
Hourly[1]	(lb/hr)	11.625	2.51	0.77	0.83	1.65	0.94
Daily	(lb/day)	279.00	60.12	18.45	19.80	39.60	22.63
Actual Annual[2]	(T/yr)	17.16	3.70	1.13	1.22	2.44	1.39
Potential Annual[2]	(T/yr)	50.92	10.97	3.37	3.61	7.23	4.13

1. Hourly emissions [lb/hr] = Emission Factor (lb/hp - hr) X Rated Engine Horsepower (hp)

2. Annual emissions [T/yr] = Hourly Emission Rate (lb/hr) X Operating Hours (hr/yr) / 2000 lb per ton

Appendix B

CO and VOC Emission Estimates

Nu-West Industries, Rasmussen Ridge Mine

Nu-West, Rasmussen Ridge Mine, K. Hanna, 7/31/03

An operational limit of 7000 hrs/yr was requested by Nu-West to reduce emissions allowed, and, therefore, reduce the PTC Processing Fee. Since the CO and VOC estimated emission rates are higher for the #5001 Standby Generator, annual emissions at 7000 hr/yr are estimated as follows using the same methods used in the Permit Application:

$$CO = \left(\frac{0.00668\ lb}{hp \cdot hr}\right)\left(\frac{7000\ hr}{yr}\right)\left(375\ hp\right)\left(\frac{ton}{2000\ lb}\right) = 8.77\ \frac{tons}{yr}$$

$$VOC = \left(\frac{0.00251\ lb}{hp \cdot hr}\right)\left(\frac{7000\ hr}{yr}\right)\left(375\ hp\right)\left(\frac{ton}{2000\ lb}\right) = 3.29\ \frac{tons}{yr}$$

Determine increase in allowable emissions for this permit modification:

Total Increase = CO increase + VOC increase

$= (8.8 - 2.1) + (3.3 - 0.57) = 6.7 + 2.7$

$= 9.4$ tons/yr

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

August 6, 2003

Certified Mail No.: 7099 3220 0009 1976 2354

Mr. Rob Squires
Nu-West Industries, Inc.
3010 Conda Road
Soda Springs, Idaho 83276

RE: AIRS Facility No. 029-00031, Nu-West Industries, Inc., Rasmussen Ridge Mine
Draft Permit to Construct

Dear Mr. Squires:

On December 23, 2002, the Department of Environmental Quality (DEQ) received your application to modify the Permit to Construct (PTC) issued on February 5, 1995 for the Rasmussen Ridge Mine. On June 2, 2003, the DEQ received a written request to supply a draft permit prior to issuance of a proposed permit, and on July 22, 2003, you provided additional information to supplement the permit application.

Based on review of the application and all applicable state and federal rules and regulations, DEQ has drafted a PTC for your review. Please be aware that processing of the permit application has ceased until DEQ receives your written request to proceed. Please be advised that agency action on this permit may be delayed if deemed necessary to respond to your comments.

If you have any questions regarding the terms or conditions of the enclosed permit, you may contact me at (208) 528-0212.

Sincerely,

Mike Simon
Permit Program Coordinator
Air Quality Division

MS/KH/sd Project No. P-020327

Enclosures

G:\Air Quality\Stationary Source\SS Ltd\PTC\Nu-West Rasmussen Mine\PTC Draft Ltr.doc

cc: Tom Edwards, Pocatello Regional Office
Ken Hanna, Permit Writer
Mike Simon, AQ Permit Coordinator
Sherry Davis: AQ Division/SF
Joan Lechtenberg, AQ, Public Comment
Phyllis Heitman, AQ (Ltr Only)
Eric Hansen, MFG, Inc.
Reading File (Ltr Only)

Eric Hansen, Senior Consultant
MFG, Inc.
19203 36th Avenue W., Suite 101
Lynwood, WA 98036-5707

	Air Quality **PERMIT TO CONSTRUCT** **State of Idaho** **Department of Environmental Quality**	**PERMIT NO.:** P-020327 **AIRS FACILITY NO.:** 029-00031 **AQCR:** 061 **CLASS:** B **SIC:** 1475 **ZONE:** 12 **UTM COORDINATE (km):** 468.8 , 4746.6

1. **PERMITTEE** Nu-West Industries, Inc.			
2. **PROJECT** Rasmussen Ridge Mine			
3. **MAILING ADDRESS** 3010 Conda Road	**CITY** Soda Springs	**STATE** ID	**ZIP** 83276
4. **FACILITY CONTACT** Rob Squires	**TITLE** Environmental/Safety Coordinator	**TELEPHONE** (208) 547-4381	
5. **RESPONSIBLE OFFICIAL** Charles H. Ross	**TITLE** General Manager	**TELEPHONE** (208) 547-4381	
6. **EXACT PLANT LOCATION** SE 2/4, NE ¼ Section 26, T6S, R43E		**COUNTY** Caribou	
7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS** Phosphate Mine			

GENERAL CONDITIONS

This permit is issued according to IDAPA 58.01.01.200, *Rules for the Control of Air Pollution in Idaho*, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, or piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require Department approval pursuant to the *Rules for the Control of Air Pollution in Idaho*, IDAPA 58.01.01.200, et seq.

C. STEPHEN ALLRED, DIRECTOR
DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE ISSUED: DRAFT

TABLE OF CONTENTS

Acronyms, Units, and Chemical Nomenclature

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
Department	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
HAPs	hazardous air pollutants
hp	horsepower
hr/yr	hours per year
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MMBtu	million British thermal units
MMBtu/hr	million British thermal units per hour
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	prevention of significant deterioration
PTC	permit to construct
PTE	potential to emit
Rules	*Rules for the Control of Air Pollution in Idaho*
SIC	Standard Industrial Classification
SO_2	sulfur dioxide
SO_x	sulfur oxides
TSP	total suspended particulate
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PERMIT TO CONSTRUCT SCOPE

Purpose

This PTC incorporates the following permit(s):

- PTC No. 029-00031, issued February 5, 1995

Regulated Sources

Table 1.1 lists all sources of emissions regulated by this PTC. The tables include all operations associated with the South, Central, and North Rasmussen Ridge mining areas.

Table 1.1 EMISSIONS SOURCES REGULATED BY THIS PERMIT

Permit Section	Source Description	Emissions Control(s)
2	#5004 Shop/Office Generator, Caterpillar model 3412, 810 hp, 545 kW @ 100% load, typical fuel contains up to 0.59% sulfur (not ASTM No. 1 or 2) & No. 1 diesel is used in cold weather. Stack characteristics: 12 ft high, 8 inches in diameter, 4602 acfm @ 100% load.	good combustion control
2	#5001 Standby Generator, Caterpillar 300, 375 hp, typical fuel contains up to 0.59% sulfur (not ASTM # 1 or 2) & No. 1 diesel is used in cold weather. Stack characteristics: 10 ft high, 8 inches in diameter.	good combustion control
3	Mobile equipment engaged in mining and hauling ore.	reasonable control of fugitive dust
3	Ore handling operations; ore hopper, underground grizzly screen, conveyors, and rail car loading operations.	reasonable control of fugitive dust
3	Mine roads and excavation areas.	reasonable control of fugitive dust

Table 1.2 identifies all other air pollution-emitting sources at the facility that do not require specific permit conditions to demonstrate compliance with applicable air quality standards.

Table 1.2 OTHER EMISSIONS SOURCES

Permit Section	Source Description	PTC Exemption
#0002 Well Generator/Engine, 207 estimated hp, 155 kW. This unit is exempt per IDAPA 58.01.01.222 when operated less than 225 hours per year.		
Light plants, typically 11-22 hp. These units are exempt and allowed unlimited hours of operation if less than 100 hp per IDAPA 58.01.01.222.		

2. STATIONARY COMBUSTION UNITS

2.1 Process Description

The stationary combustion units include stationary diesel engines used to provide electric power for site operations. This includes the #5004 Shop/Office Generator and the #5001 Standby Generator that are located in the Rasmussen Ridge Central Mine area.

2.2 Emissions Control Description

Emissions from the stationary combustion units are controlled by maintaining good combustion control (see Table 1.1.

Emissions Limits

2.3 Emissions Limits

The PM/PM_{10}, SO_2, NO_X, VOC, and CO emissions from the #5004 Shop/Office Generator and from the #5001 Standby Generator stacks shall not exceed any corresponding emissions rate limits listed in Table 2.1.

Table 2.1 SHOP/OFFICE GENERATOR AND STANDBY GENERATOR EMISSIONS LIMITS

Source Description	PM / PM_{10} [4]		SO_2		NO_X		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
#5004 Shop/Office Generator [1]	1.0	—	1.13	—	13.7	—	1.0	—	1.0	—
#5001 Standby Generator [2]	1.0	—	1.0	—	11.63	—	2.51	—	1.0	—
Total Annual Combined Emissions from Generators #5004 and #5001 [3]	—	3.62	—	4.95	—	60.1	—	8.8	—	3.3

1. Based on the manufacturers hourly emission data included in Appendix A of the Department's February 5, 1995 Technical Memorandum.
2. Based on AP-42 emission factors, Section 3.3, October, 1996.
3. As determined by multiplying the actual or allowable (if actual is not available) pound-per-hour emissions rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates. The permittee shall not exceed the T/yr listed based on any consecutive 12-month period.
4. Includes condensibles.

2.4 Opacity Limit

Emissions from the Shop/Office Generator stack, the Standby Generator stack, or any other stack, vent, or functionally equivalent opening associated with the stationary combustion units, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

2.5 Generator Operations

When the Office/Shop Generator or the Standby Generator are used, only one of these two units shall be operated at any time, except during periods of startup, shutdown, or maintenance.

2.6 Hours of Operation Limits – #5001 Standby Generator

The maximum annual hours of operation of the #5001 Standby Generator shall not exceed 7000 hr/yr, .

2.7 Fuel Oil Sulfur Content

No person shall sell, distribute, use, or make available for use any distillate fuel oil containing more than the following percentages of sulfur as required in IDAPA 58.01.01.728:

- ASTM Grade 1 fuel oil - 0.3% by weight.
- ASTM Grade 2 fuel oil - 0.5% by weight.

Monitoring, Recordkeeping and Reporting Requirements

2.8 Monitor Generator Hours of Operation

The permittee shall monitor and record the hours of operation of the #5001 Standby Generator on a monthly basis. A compilation of the most recent two years of records shall be kept onsite and made available to Department representatives upon request.

2.9 Document Certification

All documents, including but not limited to, records and supporting information submitted to the Department, shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the documents are all true, accurate and complete.

3. MINING AND LOADING OPERATIONS

3.1 Process Description

Open pit mining operations conducted at the South, Central and North Rasmussen Ridge Mine areas includes mobile equipment engaged in mining, hauling and placement of ore and overburden materials. Also included are loading operations at the off-site railcar load-out point, which includes an ore hopper, underground grizzly screen, conveyors, and a railcar loading hopper. All of the sources referred to above are fugitive dust sources.

3.2 Emissions Control Description

Emissions from mining operations are controlled by implementing good operating practices as presented in the Rasmussen Ridge Mining Project Fugitive Dust Control Plan.

Operating Requirements

3.3 Reasonable Control of Fugitive Dust Emissions – Fugitive Dust Control Plan

All reasonable precautions shall be taken to prevent PM from becoming airborne as required in IDAPA 58.01.01.651. In determining what is reasonable, considerations will be given to factors such as the proximity of dust-emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of PM. To establish reasonable precautions, the Permittee shall develop, maintain and implement a Fugitive Dust Control Plan which identifies potential sources of fugitive dust and which establishes good operating practices for limiting the formation and dispersion of dust from those sources. The Fugitive Dust Control Plan for the Rasmussen Ridge Mine shall, at a minimum, address the following:

- Use, where practical, of water or chemicals for control of dust in construction operations, the grading of roads, or the clearing and reclamation of lands.
- Application, where practical, of oil, water or suitable chemicals to dirt roads, dry material stockpiles, and other surfaces which can create dust. This includes the overland haul road from the mine to the tipple.
- Where practical, use of water to reduce dust during drilling operations; placement of drill cuttings or other solid material into drill holes prior to blasting; and minimizing the use of explosives to reduce the amount of overburden that is "cast" during the blasting operation.
- Minimizing drop heights at material loading and unloading areas, including those for large diesel powered shovels, front end loaders, and conveyors,
- Training/orientation of employees about the Fugitive Dust Control Plan procedures.

A copy of the Fugitive Dust Control Plan shall remain onsite at all times and shall be made available to Department representatives upon request.

Monitoring and Recordkeeping Requirements

3.4 Fugitive Dust Monitoring – Periodic Inspections

The permittee shall conduct a weekly facility-wide inspection of potential sources of fugitive dust emissions, during daylight hours and under normal operating conditions to ensure that the methods used to reasonably control fugitive dust emissions are effective. If fugitive dust emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each weekly fugitive dust emission inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive dust emissions were present (if observed), any corrective action taken in response to the fugitive dust emissions, and the date the corrective action was taken. A compilation of the most recent two years of records shall be kept onsite and shall be made available to Department representatives upon request.

3.5 Fugitive Dust Monitoring - Recordkeeping

The permittee shall monitor and maintain records of the frequency and the method(s) used (i.e., water, chemical dust suppressants, etc.) to reasonably control fugitive dust emissions. A compilation of the most recent two years of records shall be kept onsite and shall be made available to Department representatives upon request.

4. PERMIT TO CONSTRUCT GENERAL PROVISIONS

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the *Rules for the Control of Air Pollution in Idaho*. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the *Rules for the Control of Air Pollution in Idaho*, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq., and the permittee is subject to penalties for each day of noncompliance.

2. The permittee shall at all times (except as provided in the *Rules for the Control of Air Pollution in Idaho*) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

3. The permittee shall allow the Director, and/or the authorized representative(s), upon the presentation of credentials:
   - To enter, at reasonable times, upon the premises where an emissions source is located, or in which any records are required to be kept under the terms and conditions of this permit.
   - At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack compliance testing in conformance with IDAPA 58.01.01.157 when deemed appropriate by the Director.

4. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

5. The permittee shall notify the Department, in writing, of the required information for the following events within five working days after occurrence:
   - Initiation of Construction - Date
   - Completion/Cessation of Construction - Date
   - Actual Production Startup - Date
   - Initial Date of Achieving Maximum Production Rate - Production Rate and Date

6. If compliance testing is specified, the permittee must schedule and perform such testing within 60 days after achieving the maximum production rate, and not later than 180 days after initial startup. This requirement shall be construed as an ongoing requirement. The permittee shall not operate the source without testing within 180 days. If testing is not conducted within 180 days after initial startup, then each day of operation thereafter without the required compliance test constitutes a violation. Such testing must strictly adhere to the procedures outlined in IDAPA 58.01.01.157 and shall not be conducted on weekends or state holidays without prior written approval from the Department. Testing procedures and specific time limitations may be modified by the Department by prior negotiation if conditions warrant adjustment. The Department shall be notified at least 15 days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to the Department upon request.

7. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

8. In accordance with IDAPA 58.01.01.123, all documents submitted to the department, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.

Air Quality Permitting
Statement of Basis

Permit to Construct No. P-020327

Nu-West Industries, Rasmussen Ridge Mine

AIRS Facility No. 029-00031

Prepared by:

Ken Hanna, Permit Writer
AIR QUALITY DIVISION

August 12, 2003

PROPOSED FOR PUBLIC COMMENT

1. PURPOSE

The purpose for this memorandum is to document revisions made to Permit to Construct (PTC) No. 029-00031, dated February 5, 1995, issued to Rhone-Poulenc Basic Chemicals Company for the Rasmussen Ridge mine. This memorandum specifically documents changes to the PTC, but does not otherwise address the permit. For information regarding the technical basis for the original PTC, refer to the technical memorandum dated February 5, 1995.

2. FACILITY DESCRIPTION

A facility is defined by IDAPA 58.01.01.006.37 as all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one (1) or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control). Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same Major Group (i.e. which have the same two-digit code) as described in the Standard Industrial Classification (SIC) Manual.

For permitting purposes, the Rasmussen Ridge Mine is the "facility", and each separate mining area (i.e., the South, Central and North Rasmussen Ridge mine areas, and the load-out area) is considered to be a separate activity at that facility. In addition, the Nu-West Rasmussen Ridge Mine is a separate facility from the Nu-West manufacturing facility located near Soda Springs facility; these two do not constitute one facility. This is because the two are not part of the same industrial grouping (i.e., the mine SIC is 1475 and the manufacturing facility SIC is 2874). In addition, these two do not "... approximate the common sense notion of a plant..." as outlined in Section IX of the preamble to the NSR rules (45 FR 52693, August 7, 1980).

3. FACILITY / AREA CLASSIFICATION

The Rasmussen Ridge Mine, (i.e., the "facility" as defined above) is not a major facility in accordance with the definition given by IDAPA 58.01.01.006.55 since fugitive dust emissions may not be included in this major source determination. Note that 40 CFR Part 60 Subpart NN became a final rule on April 16, 1982. Since this facility does not belong to a stationary source category which, as of August 7, 1980, is being regulated under Sections 111 or 112 of the Clean Air Act, then fugitive emissions are not included in determining whether it is a major facility.

The Rasmussen Ridge Mine is located in Caribou County which is designated as attainment or unclassifiable for all criteria air pollutants.

4. APPLICATION SCOPE

On December 23, 2002, the Department received an application from MFG, Inc. on behalf of Nu-West Industries, Inc. (Nu-West) to modify the PTC. The application requests a permittee name change and to add the Standby Generator to the PTC (in lieu of operating under exempt status). On April 10, 2003, the application was declared complete, and on May 22, 2003 and July 4, 2003, additional information was received from the Idaho Conservation League with regard to a Draft Environmental Impact Statement for the proposed North Rasmussen Ridge Mine. On June 2, 2003, Nu-West requested a draft permit prior to issuance, and on July 22, 2003, Nu-West provided a Fugitive Dust Control Plan for the Rasmussen Ridge Mining Project, as a supplement to the application, to address fugitive dust emissions. On August 6, 2003, the Department provided Nu-West a draft permit for review, and on August 8, 2003 Nu-West responded with comments.

5. PERMITTING ANALYSIS

5.1 Emission Inventory Review

Refer to the attached Engineering Memorandum in Appendix A.

5.2 Modeling Review

A modeling analysis was not required for this project. Please read the regulatory review section of this memo for further information.

5.3 Regulatory Review

This permit to construct is subject to the following permitting requirements:

IDAPA 58.01.01.201..... Permit to Construct Required

No owner or operator may commence construction or modification of any stationary source or facility without first obtaining a permit to construct from the Department which satisfies the requirements of Sections 200 through 228 unless the source is exempted in any of Sections 220 through 223. In this case, a change in the operations for the Standby Generator (i.e., increased hours of operation) and construction of the proposed North Rasmussen Ridge mining area would be modifications of an existing facility (i.e., the permitted Rasmussen Ridge Mine). Therefore, the permit to construct requirements apply in this case.

IDAPA 58.01.01.203..... Permit Requirements for New and Modified Stationary Sources - NAAQS

For the proposed change in operation of the facility's generators, the estimated amount of CO and VOC would increase. In this case, since the estimated changes were small it was not necessary to revise the existing SCREEN modeling to demonstrate NAAQS compliance (See Section 6 below on permit condition 2.3). For the proposed North Rasmussen Ridge Mine operations, overall facility operations which generate fugitive dust emissions would remain similar to past operations. Therefore, to control fugitive dust emissions the modified PTC will emphasize the use of good operational practices and reasonable precautions to prevent and minimize the formation of fugitive dust. This will be accomplished by including operating conditions in the PTC which require the development and implementation of a site specific Fugitive Dust Control Plan. In addition, monitoring and recordkeeping requirements will be added to demonstrate the plan has been followed.

IDAPA 58.01.01.203 & 210..... Demonstration of Preconstruction Compliance with Toxic Standards

For the proposed facility modifications, an increase in the amount of toxic air pollutant emissions is not reasonably expected to occur. Generator emissions are expected to decrease since the larger Shop/Office Generator will operate less and, in its place, the smaller Standby Generator will operate more.

40 CFR 52 ..... Prevention of Significant Deterioration

The PSD rules are not applicable to this source. In 1995, it was determined by the Department that the phosphate ore mining operation conducted at the Rasmussen Ridge Mine does not constitute a "Phosphate Rock Processing Plant," which is one of the 26 designated facilities within the PSD program.

40 CFR 60, Subpart NN ..... New Source Performance Standards (NSPS) for Phosphate Rock Plants

40 CFR Part 60, Subpart NN does not apply to the Rasmussen Ridge Mine. Although the Rasmussen Ridge Mine meets the definition of a Phosphate Rock Plant, Subpart NN does not apply since the mine does not utilize any of the affected facilities listed in 60.400(a)(2). Details are provided as follows:

As given by 60.400(a)(2), the provisions of this subpart apply to the following affected facilities used in phosphate rock plants which have a maximum plant production capacity greater than 4 tons/hr: dryers, calciners, grinders, and ground rock handling and storage facilities, except those facilities producing or preparing phosphate rock solely for consumption in elemental phosphorus production. Note that the Rasmussen Ridge Mine does not utilize any of the affected facilities listed above.

As defined by 60.401(a), a Phosphate Rock Plant is any plant which produces or prepares phosphate rock product by any or all of the following processes: mining, beneficiation, crushing, screening, cleaning, drying, calcining, and grinding. The Rasmussen Ridge Mine meets the definition of a Phosphate Rock Plant since it produces/prepares phosphate rock by mining and screening.

40 CFR 60, Subpart OOO NSPS for Nonmetallic Mineral Processing Plants

The provisions of this subpart, as given by 60.670(a)(2), do not apply to facilities located in underground mines and stand-alone screening operations at plants without crushers or grinding mills. Therefore, this subpart does not apply to the Rasmussen Ridge Mine.

5.4 *FEE Review*

Nu-West paid the $1,000 application fee as required in IDAPA 58.01.01.224 on March 10, 2003. A permit to construct processing fee of $2500 will be required in accordance with IDAPA 58.01.01.225 because the increase in emissions from the modification was 9.4 T/yr as indicated in Table 8.1 (See Appendix B for details). The Rasmussen Ridge mining facility is not a major facility as defined in IDAPA 58.01.01.008.10, therefore, registration fees are not applicable in accordance with IDAPA 58.01.01.387.

Table 5.1 EMISSIONS INVENTORY

Emissions Inventory			
Pollutant	**Annual Emissions Increase (T/yr)**	**Annual Emissions Reduction (T/yr)**	**Annual Emissions Change (T/yr)**
NO_X	0.0	0	0.0
SO_2	0.0	0	0.0
CO	6.7	0	6.7
PM_{10}	0.0	0	0.0
VOC	2.7	0	2.7
TAPS/HAPS	0.0	0	0.0
Total:	9.4	0	**9.4**
Fee Due	**$ 2500.00**		

5. PROPOSED PERMIT CHANGES

This section of the Statement of Basis describes the new permit conditions that have been added/changed to the previous permit based on the results of this permitting analysis.

Permit to Construct Scope (Section 1)

This new section was added to the permit for consistency with the current format for permits. This section provides a description of the sources and activities at the facility which are addressed by the permit. The description information provided reflects the information provided by the applicant and it is the basis upon which the permit was written. The information provided in Section 1 of the PTC is provided "for information purposes only" and does not represent enforceable permit terms or conditions. Note that the horsepower of the Shop/Office Generator was changed from 483 to 810 in Section 1 of the PTC to reflect the actual size of the unit. Note that the emission estimates and modeling in the February 5, 1995 Technical Memorandum are not affected by this change.

Stationary Combustion Units (Section 2)

2.3 Emissions Limits

In section 2 of the permit, short term emission limits (i.e., lb/hr) were added for the #5001 Standby Generator. In addition, the total annual generator emissions limit for CO was raised from 2.1 to 8.8 T/yr, and the total annual generator emissions limit for VOC was raised from 0.57 to 3.3 T/yr. The reason for the change is because the CO and VOC emission estimates provided for the Standby Generator, at 7000 hr/yr, are higher than for the Shop/Office Generator, and this difference is because different emission factors were used to estimate emissions for the 2 generators. The emissions estimates for the Standby Generator are higher (even thought the hp is less) since they are based on emission factors from AP-42, Section 3.3 (October 1996), whereas the estimates for the Shop/Office Generator are based on specific emissions data provided for a 3412 CAT engine, as included in the permit application and Appendix A of the Department's February 5, 1995 Permit Technical Memorandum. The 7000 hr/yr limit was requested by Nu-West to limit the emissions increase to less than 10 tons per year which resulted in a reduced PTC processing fee. See Appendix B for details. Because the emission limit increases for CO and VOC are small, it was not necessary to revise the modeled estimates to show compliance with the NAAQS. For example, the February 5, 1995 modeled 8-hr impact for CO was 6.2 $\mu g/m^3$ based on an emission rate of 0.48 lb/hr, which was well below the corresponding NAAQS of 10,000 $\mu g/m^3$. Compliance with the NAAQS is still demonstrated based on the modeling previously conducted for this activity.

2.5 Generator Operations

For purposes of maintaining compliance with the NAAQS as a result of generator operations, a permit condition was added which allows only one generator to be operated at a time. This was done since modeling has not been conducted to demonstrate NAAQS compliance when both power generators operate simultaneously (i.e., the Shop/Office and the Standby Generators).

2.6 Hours of Operation Limits - #5001 Standby Generator

For purposes of limiting the Standby Generator emission increase to less than 10 T/yr, permit conditions to limit the hours of operation to not more than 7000 hr/yr and to monitor and record the monthly hours of operation were added. Compliance with the PTC emission limits may be determined by using the Department's emission estimation methods used in the permit analyses. For the Shop/Office Generator, the emission estimation methods and emission factors may be found in the Department's February 5, 1995 Permit Technical Memorandum, and for the Standby Generator they may be found in Appendix A of this document.

2.7 Fuel Oil Sulfur Content

The fuel oil sulfur content rules given by IDAPA 58.01.01.728 apply to this facility, therefore, it was added to the permit. Note that the permit application indicates fuel with up to 0.59% sulfur may be used. The PTC does not preclude the use of this particular fuel, however, it is important for the facility to note that it must not be sold (bought), distributed or used "as ASTM Grade 1 or 2 fuel oil" in accordance with IDAPA 58.01.01.728.

Mining and Loading Operations (Section 3)

3.3 Reasonable Control of Fugitive Emissions – Dust Control Plan

For purposes of complying with the NAAQS and IDAPA 58.01.01.651, emphasis was placed on the development of good operational practices and reasonable precautions for limiting the formation and dispersion of fugitive dust from the facility. This was accomplished by adding a permit condition which requires the development and implementation of a site specific Fugitive Dust Control Plan for the entire facility. Specific minimum requirements for the plan were specified in the permit condition to ensure that all critical activities which generate fugitive dust will be adequately covered by the plan.

3.4 & 3.5 Fugitive Dust Monitoring

To demonstrate compliance with the Fugitive Dust Control Plan requirements, monitoring and recordkeeping conditions were added to the permit. This includes requirements for conducting weekly facility-wide inspections of potential sources of fugitive emissions, and monitoring/recording the frequency and methods used to reasonably control fugitive dust emissions. To emphasize the importance of compliance, these permit monitoring conditions were based on the more stringent requirements typically found in Tier I/Title V Operating Permits.

7. PUBLIC COMMENT

An opportunity for public comment on the Nu-West PTC application was noticed in the Caribou County Sun paper and on the Department's web-site on April 17, 2003. On May 29, 2003, the Department received a request from a member of the public for a 30 day public comment period.

8. RECOMMENDATION

Based on the review of the application materials, and all applicable state and federal regulations, staff recommend that DEQ issue a proposed Permit to Construct to Nu-West Industries. An opportunity for public comment on the air quality aspects of the proposed permit shall be provided in accordance with IDAPA 58.01.01.209, and the project does not involve PSD requirements.

KLH/sd Permit No. P-020327

G:\Air Quality\Stationary Source\Ss Ltd\Ptc\Nu-West Rasmussen Mine\Public Comment\P-020327 Tm.Doc

Appendix A

Engineering Memorandum

Emission Estimate Calculations

Nu-West Industries, Rasmussen Ridge Mine

Engineering Memorandum

May 15, 2003

Nu-West Industries
Rasmussen Ridge Mine
Soda Springs

P-020237

Prepared by:

Darrin Mehr, Associate Air Quality Engineer
Division of Technical Services

PURPOSE

The purpose for this memorandum is to verify the validity of the emissions estimates from the PTC modification application.

PROJECT DESCRIPTION

Nu-West Industries (Nu-West) is proposing to modify the existing PTC to add a backup (standby) generator for the Rasmussen Ridge Mine. During periods when less electrical power is needed, this smaller backup generator, No. 5001, would operate instead of the primary generator, No. 5004. The No. 5001 backup generator burns diesel fuel. It is listed as a model 300 manufactured by Caterpillar.

TECHNICAL ANALYSIS

Process Description

The Rasmussen Ridge Mine is remotely located. The facility's operations require the use of generator sets to produce electrical power. The facility has two diesel-burning generators to produce primary electrical power for the facility. Generator No. 5004 is the primary producer of electrical power for shop and office areas. Generator No. 5001 is a standby generator that typically operates during periods when operations are not at full scale, typically during weekends. Generator set No. 0002 powers a well pump. Nine small generator sets to provide power to operate area lighting plants. Each of the area lighting plant generators ranges in size from 11 hp to 27 hp.

Equipment Listing

Existing generator and lighting equipment at the facility is listed in Tables 1 and 2.

Table 1: Light Plant Diesel Engines

Source Identification Number	Horsepower Rating (hp)
8652	11
8682	20
8692	27
8802	27
8812	27
8822	27
8872	27
0031	27
5003	27

Table 2: Electrical Generators

Source Identification Number	Horsepower Rating (hp)
0002 (well pump)	207
5001 (standby)	375
5004 (office and shop)	810

load factor of the engine. Engine rpm and fuel consumption are surrogate parameters for load factor. However, emissions estimates were conducted for full load operating conditions for this project. Actual hourly emissions are assumed to equal potential hourly emissions at full load operation.

This permitting analysis was performed for a worst-case operating scenario. There are no operating parameters that need to be monitored to comply with the potential emissions requested by Nu-West Industries. Operating hours may be tracked to quantify actual emissions on a daily, monthly, or other time basis, as desired.

The engines at the facility can operate on No.1 and No. 2 distillate fuels that meet the sulfur content limits of 0.3 weight % and 0.5 weight %, respectively. The engines can also operate on distillate fuel that contains 0.59% by weight of sulfur. One might believe that the engine's estimated SOx emissions would be dependent upon the sulfur content in the fuel. However, this is not the case, because the SOx emission factor listed in AP-42, Section 3.3, is not dependent upon the sulfur content of the fuel combusted. Emissions estimates for SOx are not affected by this factor because of the method of emission calculation.

DAM/bm P-020327

Nu-West Industries
Rasmussen Ridge Mine, Soda Springs
P-020327

Generator Engine Emissions

Source:

Generator Engine # 5001

Purpose: Standby Generator

Fuel: Diesel

Operating Information

Rated Horsepower (hp)	Load Factor (dimensionless)	Daily Hours of Operation (hr/day)	Actual Annual Hours (hr/yr)	Potential Annual Hours (hr/yr)
375	1.0	24	2952	8760

Emission Factors: Criteria Air Pollutants for Diesel Combustion
Source: AP-42, Section 3.3, released 10/96

NOx (lb/hp - hr)	CO (lb/hp - hr)	SOx (lb/hp - hr)	PM-10 (lb/hp - hr)	PM (lb/hp - hr)	TOCs (or VOCs) (lb/hp - hr)
0.031	6.68E-03	2.05E-03	0.0022	0.0044	2.51E-03

Criteria Air Pollutant Emissions Rates

Time Period/Case		NOx	CO	SOx	PM-10	PM	TOCs (or VOCs)
Hourly[1]	(lb/hr)	11.625	2.51	0.77	0.83	1.65	0.94
Daily	(lb/day)	279.00	60.12	18.45	19.80	39.60	22.63
Actual Annual[2]	(T/yr)	17.16	3.70	1.13	1.22	2.44	1.39
Potential Annual[2]	(T/yr)	50.92	10.97	3.37	3.61	7.23	4.13

1. Hourly emissions [lb/hr] = Emission Factor (lb/hp - hr) X Rated Engine Horsepower (hp)

2. Annual emissions [T/yr] = Hourly Emission Rate (lb/hr) X Operating Hours (hr/yr) / 2000 lb per ton

Appendix B

CO and VOC Emission Estimates

Nu-West Industries, Rasmussen Ridge Mine

Nu-West, Rasmussen Ridge Mine, K. Hanna, 7/31/03

An operational limit of 7000 hrs/yr was requested by Nu-West to reduce emissions allowed, and, therefore, reduce the PTC Processing Fee. Since the CO and VOC estimated emission rates are higher for the #5001 Standby Generator, annual emissions at 7000 hr/yr are estimated as follows using the same methods used in the Permit Application:

$$CO = \left(\frac{0.00668\ lb}{hp \cdot hr}\right)\left(\frac{7000\ hr}{yr}\right)\left(375\ hp\right)\left(\frac{ton}{2000\ lb}\right) = 8.77\ \frac{tons}{yr}$$

$$VOC = \left(\frac{0.00251\ lb}{hp \cdot hr}\right)\left(\frac{7000\ hr}{yr}\right)\left(375\ hp\right)\left(\frac{ton}{2000\ lb}\right) = 3.29\ \frac{tons}{yr}$$

Determine increase in allowable emissions for this permit modification:

Total Increase = CO increase + VOC increase

$= (8.8 - 2.1) + (3.3 - 0.57) = 6.7 + 2.7$

$= 9.4$ tons/yr

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

1410 North Hilton • Boise, Idaho 83706-1255 • (208) 373-0502

Dirk Kempthorne, Governor
C. Stephen Allred, Director

August 13, 2003

Certified Mail No.: 7099 3220 0009 1976 2491

Mr. Rob Squires
Nu-West Industries, Inc.
3010 Conda Road
Soda Springs, Idaho 83276

RE: P-020327, Nu-West Industries, Inc., Rasmussen Ridge Mine
Proposed Permit to Construct for Public Comment

Dear Mr. Squires:

The Idaho Department of Environmental Quality (Department) has prepared a proposed Permit to Construct (PTC) for the Rasmussen Ridge Mine facility located near Soda Springs, Idaho. Based the request from a member of the public in May, 2003, the Department is scheduling a 30-day public comment period in accordance with the *Rules for the Control of Air Pollution in Idaho*, IDAPA 58.01.01.209.01.c. You will be notified of the exact public comment period dates as soon as they are scheduled. Following the close of the public comment period, the Department will consider all comments, make appropriate revisions to the permit, and issue a final PTC.

The Department received your comments on the facility-draft permit and a written request to proceed on August 8, 2003. You may submit additional comments during the public comment period if you so choose.

If you have any questions regarding the terms or conditions of the proposed permit, please contact Ken Hanna at (208) 373-0283. For questions regarding the PTC or public comment process, please call me at (208) 373-0212.

Sincerely,

Mike Simon
Permit Program Coordinator
Air Quality Division

MS/KH/sd Permit No. P-020327

Enclosure

cc: Thomas Edwards, Pocatello Regional Office
Eric Hansen, MFG, Inc.
Ken Hanna, Permit Writer
Mike Simon, Permit Program Coordinator
Sherry Davis, AQ Division
Phyllis Heitman, (Ltr Only)
Reading File (Ltr Only)

Eric Hansen, Senior Consultant
MFG, Inc.
19203 36th Avenue W., Suite 101
Lynwood, WA 98036-5707

Air Quality
PERMIT TO CONSTRUCT

State of Idaho
Department of Environmental Quality

PERMIT NO.: P-020327

AIRS FACILITY NO.: 029-00031

AQCR: 061 **CLASS:** B

SIC: 1475 **ZONE:** 12

UTM COORDINATE (km): 468.8 , 4746.6

1. **PERMITTEE**
   Nu-West Industries, Inc.

2. **PROJECT**
   Rasmussen Ridge Mine

3. **MAILING ADDRESS**	**CITY**	**STATE**	**ZIP**
3010 Conda Road	Soda Springs	ID	83276

4. **FACILITY CONTACT**	**TITLE**	**TELEPHONE**
Rob Squires	Environmental/Safety Coordinator	(208) 574-2420 ext. 40

5. **RESPONSIBLE OFFICIAL**	**TITLE**	**TELEPHONE**
Charles H. Ross	General Manager	(208) 574-4381

6. **EXACT PLANT LOCATION**	**COUNTY**
SE ¼, NE ¼ Section 26, T6S, R43E (~ 19 air miles NE of Soda Springs)	Caribou

7. **GENERAL NATURE OF BUSINESS & KINDS OF PRODUCTS**
   Phosphate Mine

8. **GENERAL CONDITIONS**

This permit is issued according to IDAPA 58.01.01.200, *Rules for the Control of Air Pollution in Idaho*, and pertains only to emissions of air contaminants regulated by the state of Idaho and to the sources specifically allowed to be constructed or modified by this permit.

This permit (a) does not affect the title of the premises upon which the equipment is to be located; (b) does not release the permittee from any liability for any loss due to damage to person or property caused by, resulting from, or arising out of the design, installation, maintenance, or operation of the proposed equipment; (c) does not release the permittee from compliance with other applicable federal, state, tribal, or local laws, regulations, or ordinances; (d) in no manner implies or suggests that the Department of Environmental Quality or its officers, agents, or employees, assume any liability, directly or indirectly, for any loss due to damage to person or property caused by, resulting from, or arising out of design, installation, maintenance, or operation of the proposed equipment.

This permit is not transferable to another person, place, or piece or set of equipment. This permit will expire if construction has not begun within two years of its issue date or if construction is suspended for one year.

This permit has been granted on the basis of design information presented with its application. Changes of design or equipment may require Department approval pursuant to the *Rules for the Control of Air Pollution in Idaho,* IDAPA 58.01.01.200, et seq.

STEPHEN ALLRED, DIRECTOR
DEPARTMENT OF ENVIRONMENTAL QUALITY

DATE ISSUED: PROPOSED

TABLE OF CONTENTS

Acronyms, Units, and Chemical Nomenclature

AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
Btu	British thermal unit
CFR	Code of Federal Regulations
CO	carbon monoxide
Department	Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
HAPs	hazardous air pollutants
hp	horsepower
hr/yr	hours per year
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
m	meter(s)
MMBtu	million British thermal units
MMBtu/hr	million British thermal units per hour
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_2	nitrogen dioxide
NO_x	nitrogen oxides
NSPS	New Source Performance Standards
PM	particulate matter
PM_{10}	particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	prevention of significant deterioration
PTC	permit to construct
PTE	potential to emit
Rules	*Rules for the Control of Air Pollution in Idaho*
SIC	Standard Industrial Classification
SO_2	sulfur dioxide
SO_x	sulfur oxides
TSP	total suspended particulate
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

1. PERMIT TO CONSTRUCT SCOPE

Purpose

This PTC modifies previously issued PTC No. 029-00031, issued February 5, 1995. The effective date of this permit is the date of signature by the Department on the cover page.

Regulated Sources

Table 1.1 lists all sources of emissions regulated by this PTC. The tables include all operations associated with the South, Central, and North Rasmussen Ridge mining areas.

Table 1.1 EMISSIONS SOURCES REGULATED BY THIS PERMIT

Permit Section	Source Description	Emissions Control(s)
2	#5004 Shop/Office Generator, Caterpillar model 3412, 810 hp, 545 kW @ 100% load, typical fuel contains up to 0.59% sulfur (not ASTM No. 1 or 2) & No. 1 diesel is used in cold weather. Stack characteristics: 12 ft high, 8 inches in diameter, 4602 acfm @ 100% load.	good combustion control
2	#5001 Standby Generator, Caterpillar 300, 375 hp, typical fuel contains up to 0.59% sulfur (not ASTM # 1 or 2) & No. 1 diesel is used in cold weather. Stack characteristics: 10 ft high, 8 inches in diameter.	good combustion control
3	Mobile equipment engaged in mining and hauling ore.	Reasonable control of fugitive dust
3	Ore handling operations; ore hopper, underground grizzly screen, conveyors, and rail car loading operations.	Reasonable control of fugitive dust
3	Mine roads and excavation areas.	Reasonable control of fugitive dust

Table 1.2 identifies all other air pollution-emitting sources at the facility that do not require specific permit conditions to demonstrate compliance with applicable air quality standards.

Table 1.2 OTHER EMISSIONS SOURCES

Permit Section	Source Description	PTC Exemption
#0002 Well Generator/Engine, 207 estimated hp, 155 kW. This unit is exempt per IDAPA 58.01.01.222 when operated less than 225 hours per year.		
Light plants, typically 11-22 hp. These units are exempt and allowed unlimited hours of operation if less than 100 hp per IDAPA 58.01.01.222.		

2. STATIONARY COMBUSTION UNITS

2.1 Process Description

The stationary combustion units include stationary diesel engines used to provide electric power for site operations. This includes the #5004 Shop/Office Generator and the #5001 Standby Generator that are located in the Rasmussen Ridge Central Mine area.

2.2 Emissions Control Description

Emissions from the stationary combustion units are controlled by maintaining good combustion control.

Emissions Limits

2.3 Emissions Limits

The PM/PM_{10}, SO_2, NO_X, VOC, and CO emissions from the #5004 Shop/Office Generator and from the #5001 Standby Generator stacks shall not exceed any corresponding emissions rate limits listed in Table 2.1.

Table 2.1 SHOP/OFFICE GENERATOR AND STANDBY GENERATOR EMISSIONS LIMITS

Source Description	PM / PM_{10} [4]		SO_2		NO_X		CO		VOC	
	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr	lb/hr	T/yr
#5004 Shop/Office Generator [1]	1.0	---	1.13	---	13.7	---	1.0	---	1.0	---
#5001 Standby Generator [2]	1.0	---	1.0	---	11.63	---	2.51	---	1.0	---
Total Annual Combined Emissions from Generators #5004 and #5001[3]	---	3.62	---	4.95	---	60.1	---	8.8	---	3.3

1. Based on the manufacturers hourly emission data included in Appendix A of the Department's February 5, 1995 Technical Memorandum.
2. Based on AP-42 emission factors, Section 3.3, October, 1996.
3. As determined by multiplying the actual or allowable (if actual is not available) pound-per-hour emissions rate by the allowable hours per year that the process(es) may operate(s), or by actual annual production rates. The permittee shall not exceed the T/yr listed based on any consecutive 12-month period.
4. Includes condensibles.

2.4 Opacity Limit

Emissions from the Shop/Office Generator stack, the Standby Generator stack, or any other stack, vent, or functionally equivalent opening associated with the stationary combustion units, shall not exceed 20% opacity for a period or periods aggregating more than three minutes in any 60-minute period as required by IDAPA 58.01.01.625. Opacity shall be determined by the procedures contained in IDAPA 58.01.01.625.

Operating Requirements

2.5 Generator Operations

When the Office/Shop Generator or the Standby Generator are used, only one of these two units shall be operated at any time, except during periods of startup, shutdown, or maintenance.

2.6 Hours of Operation Limits – #5001 Standby Generator

The maximum annual hours of operation of the #5001 Standby Generator shall not exceed 7000 hr/yr, .

2.7 Fuel Oil Sulfur Content

No person shall sell, distribute, use, or make available for use any distillate fuel oil containing more than the following percentages of sulfur as required in IDAPA 58.01.01.728:

- ASTM Grade 1 fuel oil - 0.3% by weight.
- ASTM Grade 2 fuel oil - 0.5% by weight.

Monitoring, Recordkeeping and Reporting Requirements

2.8 Monitor Generator Hours of Operation

The permittee shall monitor and record the hours of operation of the #5001 Standby Generator on a monthly basis. A compilation of the most recent two years of records shall be kept onsite and made available to Department representatives upon request.

2.9 Document Certification

All documents, including but not limited to, records and supporting information submitted to the Department, shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the documents are all true, accurate and complete.

3. MINING AND LOADING OPERATIONS

3.1 Process Description

Open pit mining operations conducted at the South, Central and North Rasmussen Ridge Mine areas includes mobile equipment engaged in mining, hauling and placement of ore and overburden materials. Also included are loading operations at the off-site railcar load-out point, which includes an ore hopper, underground grizzly screen, conveyors, and a railcar loading hopper. All of the sources referred to above are fugitive dust sources.

3.2 Emissions Control Description

Emissions from mining operations are controlled by implementing good operating practices as presented in the Rasmussen Ridge Mining Project Fugitive Dust Control Plan.

Operating Requirements

3.3 Reasonable Control of Fugitive Dust Emissions – Fugitive Dust Control Plan

All reasonable precautions shall be taken to prevent PM from becoming airborne as required in IDAPA 58.01.01.651. In determining what is reasonable, considerations will be given to factors such as the proximity of dust-emitting operations to human habitations and/or activities and atmospheric conditions that might affect the movement of PM. To establish reasonable precautions, the Permittee shall develop, maintain and implement a Fugitive Dust Control Plan which identifies potential sources of fugitive dust and which establishes good operating practices for limiting the formation and dispersion of dust from those sources. The approved Fugitive Dust Control Plan is part of the terms and conditions of the permit.

The Fugitive Dust Control Plan (Plan) for the Rasmussen Ridge Mine shall, at a minimum, include information and establish requirements as follows:

1. A general description of the potential sources of fugitive dust from the facility.
2. Application of water from water trucks for control of dust in mining areas, haul roads and loadout areas. The Plan must establish specific, quantifiable, minimum frequencies for which the water must be applied. Water does not need to be applied when the surface is wet (i.e. during/following rainy conditions) or when reduced ambient temperatures may cause the water to freeze.
3. Application of suitable dust suppressant chemicals (e.g., magnesium chloride) to haul roads during the dry season. The Plan must specify a specific, quantifiable, minimum frequency for which the chemicals must be applied.
4. Drill rigs shall be equipped with water spray systems to reduce dust during drilling operations. The water sprays shall be used whenever drilling operations are being conducted. The water sprays do not need to be used when the ground is wet (i.e. during/following rainy conditions) or when reduced ambient temperatures may freeze the water in the system.
5. Establish procedures to minimize material drop heights and dust formation during truck loading operations and when dumping material from front-end loaders.
6. Establish procedures to minimize dust formation during conveying operations including the specific, quantifiable, maximum material drop height(s).

7. Training/orientation of employees about the Fugitive Dust Control Plan procedures.
8. The initial Fugitive Dust Control Plan shall be submitted to the Department for review and approval no later than 60 days after the issuance date of this permit. After approval of the initial plan, the permittee may update the plan at any time by submitting the proposed changes to the Department for review and approval. The updated plan shall not become effective until approved by the Department. If the Department deems that the change in the plan qualifies as permit to construct modification as defined in IDAPA 58.01.01.006, the procedures specified in IDAPA 58.01.01.200-228 shall be followed to make the change.
9. When in operation, the Permittee shall comply with the provisions in the approved Fugitive Dust Control Plan at all times. Whenever an operating parameter is outside the operating range specified by the plan, the permittee shall take corrective action as expeditiously as practicable to bring the operating parameter back within the operating range.
10. A copy of the Fugitive Dust Control Plan shall remain onsite at all times.

Monitoring and Recordkeeping Requirements

3.4 Fugitive Dust Monitoring – Periodic Inspections

The permittee shall conduct monthly facility-wide inspection of potential sources of fugitive dust emissions, during daylight hours and under normal operating conditions to ensure that the methods used to reasonably control fugitive dust emissions are effective. If fugitive dust emissions are not being reasonably controlled, the permittee shall take corrective action as expeditiously as practicable. The permittee shall maintain records of the results of each weekly fugitive dust emission inspection. The records shall include, at a minimum, the date of each inspection and a description of the following: the permittee's assessment of the conditions existing at the time fugitive dust emissions were present (if observed), any corrective action taken in response to the fugitive dust emissions, and the date the corrective action was taken. A compilation of the most recent two years of records shall be kept onsite and shall be made available to Department representatives upon request.

3.5 Fugitive Dust Monitoring - Recordkeeping

The permittee shall monitor and maintain records of the frequency and the method(s) used (i.e., water, chemical dust suppressants, etc.) to reasonably control fugitive dust emissions. A compilation of the most recent two years of records shall be kept onsite and shall be made available to Department representatives upon request.

4. PERMIT TO CONSTRUCT GENERAL PROVISIONS

1. The permittee has a continuing duty to comply with all terms and conditions of this permit. All emissions authorized herein shall be consistent with the terms and conditions of this permit and the *Rules for the Control of Air Pollution in Idaho*. The emissions of any pollutant in excess of the limitations specified herein, or noncompliance with any other condition or limitation contained in this permit, shall constitute a violation of this permit and the *Rules for the Control of Air Pollution in Idaho*, and the Environmental Protection and Health Act, Idaho Code §39-101, et seq., and the permittee is subject to penalties for each day of noncompliance.

2. The permittee shall at all times (except as provided in the *Rules for the Control of Air Pollution in Idaho*) maintain in good working order and operate as efficiently as practicable, all treatment or control facilities or systems installed or used to achieve compliance with the terms and conditions of this permit and other applicable Idaho laws for the control of air pollution.

3. The permittee shall allow the Director, and/or the authorized representative(s), upon the presentation of credentials:
   - To enter, at reasonable times, upon the premises where an emissions source is located, or in which any records are required to be kept under the terms and conditions of this permit.
   - At reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit, to inspect any monitoring methods required in this permit, and require stack compliance testing in conformance with IDAPA 58.01.01.157 when deemed appropriate by the Director.

4. Nothing in this permit is intended to relieve or exempt the permittee from compliance with any applicable federal, state, or local law or regulation, except as specifically provided herein.

5. The permittee shall notify the Department, in writing, of the required information for the following events within five working days after occurrence:
   - Initiation of Construction - Date
   - Completion/Cessation of Construction - Date
   - Actual Production Startup - Date
   - Initial Date of Achieving Maximum Production Rate - Production Rate and Date

6. If compliance testing is specified, the permittee must schedule and perform such testing within 60 days after achieving the maximum production rate, and not later than 180 days after initial startup. This requirement shall be construed as an ongoing requirement. The permittee shall not operate the source without testing within 180 days. If testing is not conducted within 180 days after initial startup, then each day of operation thereafter without the required compliance test constitutes a violation. Such testing must **strictly** adhere to the procedures outlined in IDAPA 58.01.01.157 and shall not be conducted on weekends or state holidays without prior written approval from the Department. Testing procedures and specific time limitations may be modified by the Department by prior negotiation if conditions warrant adjustment. The Department shall be notified at least 15 days prior to the scheduled compliance test. Any records or data generated as a result of such compliance test shall be made available to the Department upon request.

7. The provisions of this permit are severable, and if any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

8. In accordance with IDAPA 58.01.01.123, all documents submitted to the department, including, but not limited to, records, monitoring data, supporting information, requests for confidential treatment, testing reports, or compliance certification shall contain a certification by a responsible official. The certification shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document(s) are true, accurate, and complete.